

CREDIT QUOTATION ACCURACY

by

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INTRODUCTION

Buy Now--Pay Later (Black, 1961) characterizes a way of life for millions of American consumers. Testifying at hearings on the Truth-in-Lending Bill, Black (1961) cited that being in debt is not new. The Babylonians, Egyptians, and Romans extended credit. The Puritans bought passage on the Mayflower with a personal loan. Poor Richard's advice against borrowing came from the sad experience Benjamin Franklin had with personal loans (Neifeld, 1961). What is new today is that use of consumer credit is generally accepted.

Evolution of Consumer Credit

Growth of Consumer Credit. Consumer credit during the past fifty years has experienced three surges of growth, accompanied by a rapid and dynamic expansion of our whole economy, according to Chapman (1963). The first surge began during World War I, extended through the 1920's, and ended with the onset of the depression. The second surge got underway in the mid 1930's and lasted until interrupted by World War II. Production of consumer durable goods was curtailed and credit was restricted by the introduction of Consumer Credit Regulation W.

The third surge in consumer credit followed the close of World War II. This has been the greatest surge. From 1945 to the end of 1963, the total amount of consumer credit outstanding increased almost 12 times or from \$5.5 billion to \$70 billion. Forty-seven billion of this is installment credit (Federal Reserve Bulletin, 1964).

In recent decades, average family income has risen and the level of living has moved upward proportionately. Through the use of consumer credit, durable goods have become available to almost everyone who can budget his income for regular payments, and are not limited to those with enough savings to pay cash.

Consumer credit in the United States is not confined to people who spend their whole income irrationally and then in an emergency find themselves desperate for cash. Today, credit is accepted as an essential and integral part of our economic system. A distinguishing mark of the American consumer debt is that it carries no broad connotations of emergency nor of irresponsibility; it is a respectable arrangement by which many millions of people live for considerable periods of time (Bruck and Parker, 1956).

Are these consumers over-extended? According to Feldman (1957), three of every ten consumers have committed more than 20 per cent of their disposable income to instalment purchases. A yardstick for families to determine their "vulnerability" to financial setback because of debt was developed and published by the New York Extension Service (Bymer, 1963). The measuring criteria is based upon: (1) cash available to meet emergencies, (2) length of time for commitments to instalment debt, and (3) amount of income committed to instalment debt payments.

Characteristics of Credit Users. Studies of the Michigan Survey Research Center (Survey of Consumer Finances, 1963) have shown income and age to be two major variables related to instalment debt. Instalment debt is most frequent among spending units

with an annual income between \$5000 and \$10,000. It is least used by those with incomes under \$2000.

The occupation groups using instalment debt were headed by the skilled and semiskilled, and by the unskilled and service workers. These groups have proportionately more personal debtors than any other. Units headed by professional, semi-professional, and managerial workers come next; then clerical, sales personnel, and the self-employed; and last come retired persons and farm operators (Holmes, 1957).

Instalment debt is most frequent among spending units the head of which is 25 to 34 years old, and also frequent among those with heads in the age group 35 to 44 years old. Families with heads in this age group are those referred to as being in the expanding state of the life cycle (Glick, 1957).

It would appear that in the years immediately ahead, there will be more young people with greater demands for the use of consumer credit. Today's young people are less inhibited in the use of credit than were their parents. "Being in debt," once regarded as a stigma, has almost become a status symbol.

Credit Grantors. The consumer credit industry includes many types of financial institutions which provide credit to consumers in a variety of ways. Commercial banks, by far the largest single source of consumer credit, hold \$27 billion of the \$70 billion credit market. They hold \$21 of the \$47 billion of consumer instalment credit. Sales finance companies rank second in the instalment market with \$13 billion. They do not make direct loans to consumers but buy automobile paper and notes from dealers

financing the sale of durable goods. Credit unions ranked third in instalment credit with \$6 billion, and consumer finance companies, formerly referred to as small loan companies, ranked fourth with \$5 billion. Other lenders had less than \$2 billion of the consumer instalment debt (Federal Reserve Bulletin, 1964).

The Consumer Credit Market. Credit is an important aspect in family money management. Credit increases purchasing power for the moment; but, simultaneously, credit purchases create a debt. The family's future purchasing power, therefore, decreases as obligations increase. The use of credit restricts buying power in subsequent periods. On the other hand, the family that refrains from using credit but saves for future buying also restricts its purchasing power during the saving period. The use of credit can be constructive for the family if the members are fully aware of the attendant costs and of the fact that their credit may create a false sense of the size and elasticity of their income (Feldman, 1957).

Consumer credit is loaned and borrowed at a price. Obtaining credit at the lowest price may not be the most important factor. The terms of the contract, the size of monthly payments, or the length of the loan are also important. The price of credit is measured in dollars and cents and/or by per cent. All of these factors must be known to make a wise choice.

A price is more meaningful if it can be compared directly to other prices of comparable service. Consumer educators recognize that without standardization and comparability there is little or no basis for valid judgment. Lasser and Porter (1961) stated that only by knowing the dollar cost and the true

percentage of charge can the consumer really bargain for credit. Morse (1961) stated that consumers should have the truth about credit terms in clear, unambiguous, standardized, and easily comparable terms, and then be allowed freedom to make decisions. Similar positions are held by Farnsworth (1963), Black (1961), Margolius (1953), and others. Articles to this effect appear currently in leading popular magazines such as Changing Times (1963), Consumer Reports (1963), Reader's Digest (Ross, 1963), and Better Homes and Gardens (1964). Most Extension Service materials include a formula for the calculations of the effective rate charge on instalment loans.

Proposals for Credit Disclosure

A serious and difficult problem exists in the consumer credit market. Terms are not quoted or disclosed in a manner which is helpful for consumers to make efficient comparisons in shopping for credit.

Several proposals of significance to Kansas consumers have been made. In September 1959, the Kansas Home Economics Association Executive Council adopted a resolution providing for the "Standardizing and Simplifying Charges for Credit and Loans" (Appendix A). This resolution was adopted unanimously at the annual meeting, March 1960.

Senator Paul Douglas (1960) introduced the controversial Consumer Credit Labeling Bill S. 2755 in 1960. In the 86th Congress, hearings on the bill were held before a subcommittee of the Committee on Banking and Currency of the United States

Senate. The bill was modified, renamed as S. 1740 "Truth-In-Lending Bill," and reintroduced in the 87th Congress and again in the 88th Congress as Bill S. 750.

President Kennedy (1962) recognized the Douglas Bill in his "Consumer Protection and Interest Message." Commenting on the rapid rise of consumer debt outstanding, the President stated:

The testimony reviewed shows a clear need for protection of consumers against charges of interest rates and fees far higher than apparent without any real knowledge on the part of the borrowers of the true amounts they are being charged.

He further stated that

. . . excessive and untimely use of credit arising out of ignorance of its true cost is harmful both to the stability of the economy and to the welfare of the public. Legislation should therefore be enacted requiring lenders and vendors to disclose to borrowers in advance the actual amounts and rates which they will be paying for credit.

The Consumer Advisory Council (1963), which was appointed by Walter W. Heller, Chairman of the Council of Economic Advisers in 1962, supports the Douglas Truth-in-Lending Bill S. 750 and has stated in detail its recommendations for full disclosure of credit costs.

In discussing "truth-in-lending" in his message on "The American Consumer" to the Congress of the United States, President Johnson (1964) stated:

The consumer credit system has helped the American economy to grow and prosper. Credit is used to finance the purchase of homes, cars, appliances, education and recreation. Consumer credit and mortgage debt on urban family homes together total over \$250 billion. The cost of such credit must be made as clear and unambiguous as possible, eliminating all possibility of abuse.

The antiquated legal doctrine, 'Let the buyer beware,' should be superseded by the doctrine, 'Let the seller make full disclosure.' Therefore: I recommend enactment of legislation requiring all lenders and extenders of credit to disclose to borrowers in advance the actual amount of their commitment and the annual rate of interest they will be required to pay.

Kansas Credit Legislation

Although almost every state has specific laws applying to consumer credit, there is wide variation in methods by which rates are quoted. Unless Kansas provides specific legislation, the ceiling under the usury law is 10 per cent per annum as quoted in the General Statutes of Kansas (1961). Specific legislation, however, does apply in almost all cases involving financial institutions.

Laws for money borrowed as a cash loan differ from laws applying to a loan on consumer durables. Credit grantors (other than credit unions) making a cash loan may operate under the Kansas Consumer Loan Act of 1955 which establishes a rate not to exceed 3 per cent per month on that part of the unpaid balance not in excess of \$300 and 5/6ths per cent--10 per cent per annum--on any remainder of such unpaid principal balance up to \$2100.

If the loan is from a federal- or state-chartered credit union, the maximum rate which may be charged is 1 per cent per month--nominal rate of 12 per cent per annum--on the unpaid balance (Federal Credit Union Handbook, 1956). This rate includes all charges incident to making the loan.

The Kansas Sales Finance Act, enacted in 1958, provided for a dollar add-on type charge. As to motor vehicles, the Kansas maximum for new cars, referred to as Class 1, is \$7 per year per \$100 of initial unpaid balance. The maximum varies with age of the car; for used cars one to two years old (Class 2), the maximum rate is \$10 per hundred per year; it is \$13 per hundred for older cars (Class 3).

The Kansas Sales Finance Act also regulates charges on services and goods other than motor vehicles. Twelve dollars per hundred per year may be charged on that part of the principal balance which is under \$300. If the principal balance exceeds \$300 but is less than \$1000, \$9 per hundred per year on that portion over \$300 may be charged. If the principal balance exceeds \$1000, \$8 per hundred per year on that portion over \$1000 may be charged.

Some Previous Credit Studies

Studies concerning credit quotations indicate that the majority of consumers are confused by instalment credit quotations, and they do not know at what rate they are being charged for their loans.

A survey of 311 families in Champaign-Urbana, Illinois, by Due (1955) disclosed that about two-thirds of the users of instalment credit did not know the amount of the finance charge nor the finance rate on their most recent instalment purchases.

Hoskins and Coles (1961) studied 105 families in the San Francisco Bay area using instalment credit for purchasing

automobiles. Many of the families could have saved on finance charges if they had shopped for credit. Those who shopped for credit for used cars paid a median rate of 12 per cent compared with 22.9 per cent paid by those who had not shopped. However, two-thirds admitted they did not know the simple rate they were paying to finance their automobiles.

In the Morse and Courter study (1962), which is discussed later, students enrolled in a Family Finance class requested specific information about dollar cost and annual rate charges from credit grantors in their local Kansas communities. Fewer than half of the students received accurate answers to the questions asked. The results indicated that credit grantors will not or can not clearly and truthfully answer simple questions about the costs of credit.

A study made at the University of Tennessee (Spitze, 1963) to determine if knowledge of consumer credit results in wiser use of such credit indicated that most consumers did not know the interest rate they paid for the credit used. Those with greater credit knowledge did pay lower rates for their credit; those with little knowledge tended to hold extreme attitudes; and about half of them had no idea where to get additional information.

The Family Economics Department of Kansas State University frequently proposes to its students, problems simulating actual situations to give their students experience to make their course work more meaningful. Students enrolled in the Family Finance course during fall semesters of 1959, 1960, 1961, 1962, and 1963

were asked to visit during their Thanksgiving holidays a banker, a car dealer, a consumer finance company, and a credit union. Students were to ask what the monthly payments would be, what the dollar cost of credit was--1959 excepted--and what would be the simple interest rate per annum if they were to finance a used car of specified value for the next 12 months. The price of the car, the amount to be financed, and the amount of down payment was varied from year to year. Comments from the creditors were invited.

The problem was revised somewhat from year to year in response to suggested phraseology, as were the model of the car, its price, and the dollar amount to be financed. The number of payments remained the same for all years.

The first amount to be financed was \$200, and the questions asked for: (1) the dollar amount of the 12 monthly instalment payments and (2) the rate quotation per annum. Introduction of the Douglas Truth-in-Lending Bill showed need for knowing the cost of credit both in dollars and cents, and in terms of the simple rate per annum; therefore, in 1960, a third question was introduced which asked for the credit cost in dollars and cents. This permitted computation of the rate on the basis of dealers' stated dollar cost.

In 1959, the question asking for the rate quotation had read: "Interest rate quotation ___% per annum." In order to clarify the question it was rephrased in 1960 to read: "The credit cost is equivalent to a nominal interest rate of ___% per annum on the money in use." An industry spokesman criticized

use of the term "nominal interest" and questioned whether or not the respondents could interpret the question uniformly. Therefore, in 1961, to eliminate confusion as to what part of the balance was being referred to, the question was changed to read: "What would be the credit cost expressed as a simple annual rate on the money in use? . . . ___% per year on unpaid balance." This phraseology remained the same for the years 1962 and 1963.

Also, in 1961, a new dimension was added on a trial basis. As a part of the unit test several weeks following the report, students were asked whether or not they felt they had received correct replies from the dealers and what reasons they had for feeling that way.

The students' evaluations were not published but were studied sufficiently to recognize the value of such data for gaining a better understanding of teaching effectiveness and consumer reaction to credit grantors' quotations. The same procedure was repeated in 1962 and in 1963.

For the years 1959 to 1962, the problem and questions for each of the different creditors were combined on a single sheet of paper. This had the disadvantage of enabling the credit grantors to see one another's quotations. In 1963, the problem and questions were printed on individual $5\frac{1}{2}$ " x $8\frac{1}{2}$ " cards. (See Appendices B, C, D, E, and F for examples of each year's problems.)

Student enrollment in the fall classes from 1959 to 1963 were 103, 77, 142, 129, and 135, respectively. In 1963, all four sections were taught by the same instructor. The other years some sections were taught by a second instructor. Although no formal study was made to determine whether reporting varied

significantly by class sections or by teachers, the results were kept separate until there was satisfaction that there was no major difference.

The tabulated data of the 1959 problem were used as supporting evidence in the testimony of Dr. Richard L. D. Morse at the hearings on the Consumer Credit Labeling Bill S. 2755 (1960). When he again testified on the renamed "Truth-In-Lending Bill" in 1961, data collected from the 1960 problem were also introduced as evidence. Mimeographed copies of these data appear in Appendices G and H. The tabulated data of the 1961, 1962, and 1963 problems appear in Appendices I, J, and K.

The Morse and Courter study was based on the 1962 data of this standardized data. A report of the results was prepared and mimeographed (Appendix L). It was also published in full or in part in the following five trade journals: Bank News (Riggs, 1963), Consumer Finance News (Morse and Courter, 1963), Credit Union Executive (Morse and Courter, 1963), Kansas League Credit Union News (1963), and Personal Finance Law Quarterly Report (Morse and Courter, 1963).

The present study is an analysis of the 1963 problem and a comparison of it with the previous four years.

Objectives

The specific objectives of this study were:

1. To determine the accuracy of quotations of credit grantors and the discernibleness of students in 1963.
2. To contrast the results of the 1963 study with those of the previous four years.

PROCEDURE

The methods employed in the 1962 study were the same as those used in the 1963 study with slight modifications. The results were then compared with those of previous years.

The 1963 Study

The financing problem consisted of a 1959 used car priced at \$650. Terms were \$300 down; \$350 to be financed in 12 monthly instalments. The Family Finance class sections were assigned the problem over Thanksgiving vacation, 1963. Each student was to present the problem to a bank, a used car dealer, a consumer finance company, and a credit union in his local Kansas community. The problem, presented on $5\frac{1}{2}$ " x $8\frac{1}{2}$ " cards, asked the following: (1) Payment per month expressed in dollars and cents, (2) total amount of credit cost expressed in dollars and cents, and (3) the credit cost expressed as a rate per annum. (Example of the problem is in Appendix P.) Comments from the creditors were invited. The students were instructed to report the information as given to them, and not to interpret or contest the answer. Many times the creditors themselves recorded the information on the card. Some wrote comments.

The information was gathered from various areas of Kansas, urban and rural, and large and small communities. A number of students gathered information from out of state, but these were excluded since credit laws vary from state to state.

There was variation in numbers of credit institutions interviewed as some of the communities did not have all types of dealers, and in some cases students were unable to contact all types.

Error Measurement. Analysis of the answers collected by the students was based on the method used in the Morse and Courter study (Appendix L). To determine the accuracy of the quoted dollar cost it was compared with the computed dollar cost figure. The monthly payment was multiplied by 12 months from which sum was subtracted the amount borrowed. The rates per year were computed, using the constant ratio formula on the basis of the quoted dollar cost. The constant ratio formula method is but one of the eight methods used for computing annual rates. Morse and Courter selected it in preference to others because it is easy to use, frequently cited, and accurate enough to help borrowers compare rates quoted by lenders.

$$\text{Constant ratio formula: } r = \frac{2mI}{B(n+1)}$$

r = annual rate

m = number of pay periods in one year;
12 if monthly periods, and 52 if
weekly periods

n = number of payments in contract

I = dollar cost of credit

B = beginning balance owed on loan or
credit contract

The error or difference in dollar cost was determined by subtracting the quoted cost from the computed cost and was expressed in dollars and cents. The error or difference in rates was determined by subtracting the quoted rate from the computed, and was expressed in percentage points.

To facilitate comparison between dealers, the error was normalized. The quoted rate was taken as a percentage of the computed rate to calculate the relative error. Despite the fact

that the spread in percentage points increases as the rate increases, the error, expressed as a relative percentage of the computed rate, does not necessarily change. For example, a quotation of an \$8 add-on, quoted as 8 per cent, computes to be 14.8 per cent simple interest. The error is approximately seven percentage points. A \$13 add-on--nominal rate of 24 per cent--quoted as 13 per cent is in error by 11 percentage points. The relative error of both quotations is 54 per cent or approximately half of the true rate. The relative error of a discount rate is approximately 50 per cent, and again the ratio remains the same for different discount quotations. The computation table for the principal of \$350, based on equivalents of add-on quotations, is shown in Table 1.

Rate quotations were classified by method of quoting credit rates: "add-on," "add-on discount," and "simple 'legal' monthly rate." A "not classified" category included rate quotations that did not follow a pattern because of added fees and insurance, or were so greatly in error it was impossible to reconstruct the problem.

Student Opinion. Upon completion of the lesson on credit and after the data were transferred to tabulation sheets, the data cards were returned to the students and they were asked: "In your opinion were the answers you received to your credit questions correct?" They were to answer as follows: "Yes--I believe they were correct," "No--I do not believe they were correct," or "I do not know." They were then asked to explain their answer and to state on what they based their opinion.

Table 1. Computations for principal of \$350, 12 monthly payments.

Dollar add-on per hundred per year				
Cost per : hundred : dollars :	:	Monthly payments*	:Simple annual: :interest rate: :equivalent** :	Quoted as per cent of computed
Dollars		:	Per cent	
6	21.00	30.91	11.1	54.05
7	24.50	31.21	12.9	54.26
8	28.00	31.50	14.8	54.05
9	31.50	31.79	16.6	54.21
10	35.00	32.08	18.5	54.05
11	38.50	32.37	20.3	54.18
12	42.00	32.67	22.2	54.05
13	45.50	32.96	24.0	54.16
"Discount" add-on, dollars per hundred per year				
6	22.34	31.03	11.8	50.8
7	26.34	31.36	13.9	50.4
8	30.42	31.70	16.1	49.7
9	34.59	32.05	18.2	49.5
10	38.85	32.40	20.5	48.8
11	43.20	32.77	22.8	48.2
12	47.64	33.14	25.1	47.8
13	52.18	33.51	27.5	47.3

* Payments are within 12¢ or less of total owed.

** By constant ratio formula.

In 1962, student explanations were classified into three general categories. Those who relied on "intuition," "prejudices," "opinions," or on "simple faith"; those who used "deductive reasoning"; and those who calculated to check the accuracy of the quotations. Refinements were added in 1963. Faith was divided into three categories: (1) Faith in the person or institution, (2) faith because information was taken from a book or rate table, and (3) faith because calculations were made by the student. The other two categories remained the same.

"No reason given," "information insufficient to answer," and "don't know" classifications were also used in 1963. Coding used for student response and for reasons given is as follows:

Response	
Code	
Y	"Yes, I believe information received was correct."
N	"No, I do not believe information received was correct."
DN	"I do not know," or no reason was given or information was not sufficient for a valid answer.

Reasons for "Belief" of Quotation	
Code	
Y Fi	Believed that credit grantor or institution would give correct information.
Y Pb	Believed that since information was taken from book or chart it was correct.
Y Fe	Believed calculations which were made and explained.
Y R	Sounded "reasonable" according to information received from other institutions or from what was learned in class.
Y C	Recomputed problem and answer agrees.
NRG	No reason given.

Reasons Given for "Disbelief" of Quotation	
Code	
N Fi	Did not trust the credit grantor or institution.
N Pb	Did not believe information taken from book or rate table was correct.
N Fe	Did not believe computations as explained were correct.
N R	Answer does not seem "reasonable" according to other information received or from what was learned in class.
N C	Recomputed answer and do not believe quoted information is correct.
NRG	No reason given for not believing.

Student Discernibleness. To determine if students were discriminating in their appraisal of dealers and could detect an erroneous from a correct quotation, answers were matched with the computed errors in the dealers' quotations. Students were

classified as: (1) "Discerning" if they said they believed the dealer's quotation to be correct and the dealer's quotation had a computed error of less than three percentage points; or if they said they did not believe the dealer's quotation to be correct, and the error point of the dealer was in excess of three percentage points, (2) "non-discerning" if they believed incorrect quotations or did not recognize correct quotations. This also included students who replied "I don't know" when adequate information for valid judgment was available, or made a judgment based on inadequate data, and (3) "insufficient" if the students were unable to give and did not give a positive answer because essential data were missing. This third category was not used in 1962.

After analysis, the 1963 data were compared with the study done by Morse and Courter in 1962. Finally, credit institutions were compared by years on dollar cost quotation and rate quotation accuracy.

Studies Compared. No two of the studies were identical so some adjustments were required for comparison. The 1962 and 1963 studies differed only in the amounts so these data are directly comparable both as to error of dollar and rate quotations and student opinions.

In years previous to 1962, student opinions were not included, so only dollar and rate quotations can be compared. Because the amounts varied, the absolute errors likewise varied. So that differences in errors would not be confused with the dollar amount involved, the errors were normalized--that is,

expressed as a per cent of the computed rate. The 1959 study did not ask for the dollar cost so this could not be computed. The normalized errors were summarized by types of credit grantors to permit appraisal of the consistency of error over the past four or five years.

Terms Used

For purposes of this thesis, the following terms have been used with these meanings:

"Add-on" method of quotation - The finance charge is added to the principal, which divided by the number of months gives the schedule of monthly payments. It is usually quoted as dollar cost per hundred dollars per year.

"Add-on discount" method of quotation - The "add-on discount" is the add-on charge compounded. Charges are computed not only on the principal, but also on the interest. The effect of the discount is to increase the cost of the loan.

Rate method of quotation - Finance charges quoted as a per cent computed monthly or yearly on the unpaid balance. The method of repayment of a principal balance may be by equal payments (amortized) or by unequal payments. If a loan is amortized, monthly payments are equal; payments on principal and interest are combined into equal payments per month. If a loan is repaid by unequal monthly payments, the interest is computed each pay period on the unpaid balance and added to the payment to reduce the principal. Payments differ each time.

Simple annual rate - The interest or finance charges expressed as a percentage rate per annum on the money in use--the unpaid balance.

Unpaid principal balance - Any unpaid portion of a sum borrowed or loaned.

Credit grantors - Any person engaged in the business of extending credit.

Legal interest rate - The rate permitted by law. If no specific rate is mentioned, the maximum rate is assumed. (See Kansas Consumer Loan Act.)

Nominal interest rate - Same as simple annual rate.

Instalment payment - A payment to amortize an unpaid balance.

Median - That value which is neither greater than half the observed values nor less than half of them.

Mode - That value which occurs most often.

Dollar cost of credit - The difference measured in dollars and cents between the total of all the payments and the sum originally advanced.

RESULTS--1963 STUDY

The problem was assigned to 135 students, and all returned a report on one or more of the four types of credit grantors. Students from out of state were disqualified, leaving reports from 117 students for analysis.

Not all students interviewed all four credit grantors. There are 112 reports from banks, 101 from used car dealers, 80 from consumer finance companies, and 61 from credit unions. Not all of the agencies were located in the students' home communities nor were all open during the Thanksgiving vacation.

Creditor Response to the Problem

Most of the students indicated that the credit institutions were very friendly, cooperative, helpful, and interested in the problem. They did, however, receive a variety of responses to the problem presented. A number of the banks spent time explaining to the students how and why their rates were lower than some other types of credit granting institutions. One banker refused to state the nominal rate and he is quoted on the card as saying:

"There is no possible way to figure the last question accurately without spending an unduly number of hours at it. It is impractical for a bank or finance company to figure the simple rate on the cost of used cars." Another banker who claimed inability to figure the rate was told how by a more mature and persistent student. Subsequent visits to this bank by other students resulted in their being given the computed rate. Not only were different rates obtained by different students (this might be expected because of the different risk rate classifications of the individual students), but different officers within the same institution varied in their willingness and readiness to respond.

The usual procedure of used car dealers was to quote from a rate book. Some of the dealers said they had no rate charts which did not include credit life insurance, hence they could not or would not quote a rate merely for the \$350. Seven of the consumer finance companies quoted payments and dollar costs for amounts other than \$350. This was not an amount for which they had a table, so the problem was adjusted to accommodate their office procedures.

A number of the finance companies took time to explain their policy to the student and to explain why their rates are higher than some of the other credit granting institutions. Occasionally a dealer became quite disturbed by the problem. One refused to put the name of the firm on the card. He stated that it was supposed to be confidential information. The rate he quoted was 12 per cent; the rate was actually 36 per cent. Another dealer would not give answers without going through the home office.

One dealer, who took his monthly payment quotation and dollar cost from a book, would not quote a rate, giving as his reason: "It is impossible to work out the simple annual rate." Several quoted the add-on rate and stated that it would be impossible to figure simple interest on this problem. One student was informed that: "By reason of a Kansas law, life insurance is necessary for loans exceeding \$300." Another rather candid respondent informed a student that his company did not tell the average customer what the rate was and the average person did not know how to figure the true rate. A number of the credit grantors admitted they themselves did not know how to figure the simple annual rate.

Credit Quotations

The problem posed three questions regarding the financing in 12 monthly payments of \$350 needed to complete payment for a used car. The answers expected were: The amount of the monthly payment, the total dollar cost of the credit, and the nominal or simple annual rate. A complete tabulation of the results is presented in Appendix K. A summary and evaluation of these data by credit grantors follow.

Monthly Payment Quotations. The median and modal monthly payments quoted by the four credit grantors are shown in Table 2. Consumer finance companies quoted the highest median monthly payment (\$32.95), closely followed by usedcar dealers (\$32.00). Credit unions quoted the lowest (\$30.79), and the median of banks was only 13 cents higher. The modal monthly payments of credit

Table 2. Median and modal monthly payments, principal \$350, 12 payments, by credit grantors, 1963.

Credit grantor :	:Median : Total : Simple			: Modal : Total : Simple		
	:monthly:	credit:	annual	: monthly:	credit:	annual
	:payment:	cost*	: rate**	: payment:	cost*	: rate**
	Dollars		Per cent	Dollars		Per cent
Banks	30.92	21.04	11.1	30.92	21.04	11.1
Used car dealers	32.00	34.00	18.0	31.50	28.00	14.8
Consumer finance Co.	32.95	45.40	23.9	35.00	70.07	37.0
Credit union	30.79	19.50	10.3	30.71	18.52	9.8

* Dollar cost computed from monthly payment.

** As computed by the constant ratio formula, using the computed dollar cost figures in the column to the left.

unions was eight cents lower than the median, so by either measure the average monthly payment for credit unions was the lowest of the four institutions. The modal monthly payment of used car dealers was 50 cents lower than their median payment, and that of the consumer finance companies was \$2.05 per month higher than their median payment. So, among the two credit grantors with the higher monthly payments, by both average measures, consumer finance companies present the highest monthly payments.

Method of Rate Quotation. Rate quotations are classified by apparent method of quotation as well as by credit grantor. After careful inspection of the reports, this investigator assigned the quotations to one of the three customary methods of quoting credit: add-on, add-on discount, and simple interest rate. Definitions of these terms have been presented in the procedure. Because of

inclusion of insurance fees, it was not possible to classify all of the quotations. Also the manner in which these quotations were given to students may differ significantly from the manner in which they may be quoted to the general public.

Banks. Of the 112 banks, seven did not quote a rate and three were not classified. The results are summarized in Table 3. Of the remaining 102 banks, just over half (52%) complied with the question and gave an amount on simple interest terms. The most frequently quoted simple interest rate was 11.0 or 11.5 per cent. Almost an equal number of banks gave an add-on quotation, and the rate most frequently quoted was 6 per cent. The very distribution of the data indicated a clear division between quotations of the add-on figure, which is approximately one-half (54%) its simple interest equivalent, and quotations of the simple annual rate.

Used Car Dealers. Of the 101 dealers, 81 of their rate quotations were classified and are shown in Table 4. All but nine dealers used the add-on method. The modal rates were 8 and 10 per cent. Since the maximum legal rate in Kansas is a \$13 add-on, higher rates reflect efforts to express the add-on as true simple interest rate equivalents.

Consumer Finance Companies. Quotations from 73 of the 80 consumer finance companies were classified and are shown in Table 5. Over one-third repeatedly quoted the legal rate, which under the Consumer Loan Act is 3 per cent per month on that portion over \$300. They may also be licensed to operate under the Consumer Finance Act which permits charges up to \$13, which is expressed in dollars per hundred on the unpaid balance per year.

Table 3. Commercial banks, classified by per cent rate quoted and quotation method, 1963.

Number of banks	Per cent rate quoted	:Apparent method of rate quotation:			
		:	: Add-on	: Simple	:
			Add-on	discount	interest
			Number of banks		:classified
1	5.0	1			
36	6.0	33	1		2
1	6.5	1			
5	7.0	4		1	
14	8.0	9		4	1
1	8.5	1			
4	9.0			4	
5	10.0			5	
10	11.0			10	
1	11.1			1	
8	11.5			8	
1	11.7			1	
3	11.8			3	
2	11.9			2	
1	13.2			1	
1	13.5			1	
3	13.7			3	
3	14.0			3	
1	14.7			1	
2	15.5			2	
1	15.9			1	
1	16.0			1	
105	Quoting	49	1	52	3
7	Not quoting				
112	All banks				

Table 4. Used car dealers, classified by per cent rate quoted and quotation method, 1963.

		:Apparent method of rate quotation:			
Number of:	Per cent	:	: Add-on	: Simple	:
used car	rate	:	Add-on	discount	interest
dealers	quoted	:	Number of used car dealers	:	Not classified
2	5.0	2			
2	5.5	1			1
3	6.0	1	1		1
5	7.0	4			1
21	8.0	17	1	1	2
1	8.5	1			
6	9.0	4	1		1
1	9.5	1			
27	10.0	16	8	1	2
7	11.0	5		1	1
1	11.5				1
3	12.0	3			
1	12.7			1	
6	13.0	5	1		
1	15.5			1	
1	18.0			1	
1	22.0			1	
1	25.0			1	
1	25.9			1	
91	Quoting	60	12	9	10
10	Not quoting*				
101	All used car dealers				

* One dealer stated there would be no charge for the financing, therefore no rate is given.

Table 5. Consumer finance companies, classified by per cent rate quoted and quotation method, 1963.

		:Apparent method of rate quotation:			
No. of consumer finance companies:	Per cent rate quoted		Simple interest	Legal monthly rate	Not classified
1	5.5				1
2	6.0	1			1
1	7.0	1			
9	8.0	8*			1
1	8.3			1	
1	8.8			1**	
9	10.0	8			1
2	11.0	1			1
2	12.0			2	
7	13.0	7			
1	16.0		1		
2	17.5		2		
4	18.5		4		
1	19.7		1		
1	19.9			1**	
4	20.0			4	
1	23.1			1	
1	23.8		1		
1	23.9		1		
2	25.9		2		
2	31.5			2**	
2	36.0		2		
16	3.0-5/6***			16	
73	Quoting	26	14	28	5
7	Not quoting				
80	All consumer finance companies				

* Five of these are add-on discounts.

** Quoted for principal amount of \$360 rather than the \$350 requested.

*** Three per cent per month on \$300, 5/6 per cent per month on that amount in excess of \$300. (Kansas Consumer Loan Act)

This range in quoted rates, from 5.5 to 35.6 per cent, reflects the confusion that results when dealers are asked to quote a rate in terms with which the trade is unfamiliar.

Credit Unions. The range in rate quotations for credit unions is limited by the legal maximum of 1 per cent per month which is equivalent to 12 per cent per annum. This distribution is overwhelmingly influenced by reports from the Kansas State University Federal Credit Union, which was convenient for the students. Thus, 30 per cent of the quotations are from this credit union whose rates are 8/10th of 1 per cent per month or 9.6 per cent per annum and who with lower rates are attempting to compete with the low add-on rates (Table 6).

Table 6. Credit unions, classified by per cent rate quoted and quotation method, 1963.

Number of credit unions	Per cent rate quoted	Apparent method of rate quotation		
		Add-on		Not
		Number of credit unions	Simple interest	
9	1.0 (per mo.)		9	
1	4.6	1		
4	6.0	3	1	
6	6.5	5		1
1	6.6	1		
1	6.7	1		
1	7.0	1		
5	8.0	2	1	2
1	8.4		1	
13	9.6		13	
1	11.3		1	
1	11.9		1	
16	12.0	2	14	
1	24.0		1	
61	Quoting	16	42	3
	Not quoting			
61	All credit unions			

Methods of Quotations Summarized. The add-on method of quotation was used almost exclusively by used car dealers, by approximately half of the banks, and by many of the consumer finance companies. The simple annual rate quotation was used by the consumer loan companies and almost exclusively by the credit unions. Approximately half of the banks also gave the quotation as a simple annual rate.

Banks tended to use the \$6 add-on rate, whereas consumer finance companies and used car dealers tended to quote the \$8, \$10, and \$13 add-on. Credit unions tended to use the 12 per cent interest rate, their legal maximum, and the consumer finance companies their legal maximum of 3 per cent a month on the unpaid balances up to \$300 and 5/6 per cent on the remaining \$50. These varying methods of quoting rates will be reflected in the analysis which follows on the accuracy of the quotations.

Accuracy of Dollar Cost Quotations. The accuracy of dollar cost quotations was checked by multiplying the payment amount by 12 and subtracting the \$350, thus obtaining a computed dollar cost. The difference between the computed and quoted dollar cost was used as the measure of error. The computation worksheet (Table 1) facilitated checking of the dollar cost quotations. A summary of the error by credit grantors is presented in Table 7. Banks and credit unions were the most accurate in quoting dollar costs. Ninety-five per cent of the banks and 92 per cent of the credit unions erred \pm \$1.50 or less. This tolerance was established to eliminate any differences as a result of rounding monthly figures. If the monthly payment was as much as 12 cents

Table 7. Error in dollar cost quotations; by credit grantors, 1963.

Credit grantor	All	No	Error in quotations			Did not quote
			:\$0.50	:\$1.50	:\$1.50	
			or less	or less	or more	
Banks						
Number	111	79	98	105	6	1
Per cent	100	71	88	95	5	
Used car dealers						
Number	101	56	79	85	16	
Per cent	100	55	78	84	16	
Consumer finance companies						
Number	80	56*	69	69	11	
Per cent	100	70	86	86	14	
Credit unions						
Number	60	39	53	55	4	1
Per cent	100	65	88	92	8	

* Seven of the 56 finance companies quoted dollar costs for a principal amount other than \$350 as they did not have tables available which gave the costs for a principal of \$350.

in error, the dollar cost quotation would still be considered accurate. The consumer finance companies and used car dealers were less accurate in their dollar cost quotations.

Those credit grantors who quoted dollar costs in excess of + \$1.50 tended to err grossly. This suggests careless clerical errors or faulty communication between student and the dealer. Five per cent of the banks, 8 per cent of the credit unions, 14 per cent of the consumer finance companies, and 16 per cent of the used car dealers erred by \$8 or more.

Accuracy of Rate Quotations. The rates quoted by the credit grantors were compared with the computed rate obtained by use of

the constant ratio formula, using the quoted dollar cost as the finance charge. These data are presented in Table 8. Credit unions' quoted rates were more frequently accurate than those of other credit grantors. Sixty-nine per cent of the credit unions were within ± 3 per cent tolerance limits. The majority of the banks (51%) and 41 per cent of the finance companies reported rates accurately. However, if the "legal" monthly rate is not accepted as correct for finance companies, only 19 per cent would be considered accurate. The quotations of used car dealers were least accurate; only 13 per cent were within the six percentage point tolerance limit.

As previously indicated, the source of the "error" may be a reflection of the method of quoting rates by a particular company or trade group. For example, the majority (53%) of the used car dealers misquoted the rate and were in error 7 to 11 percentage points. This corresponds to an \$8 and \$10 add-on or add-on discount as shown in Table 1. Likewise, the typical quotation error of consumer finance companies was between 7 and 11 percentage points, which corresponds to the frequently quoted \$8, \$10, or \$13 add-on or add-on discount quotation. These add-on quotations may have been reported by sales finance companies or by licensed operators under the Kansas Sales Finance Act. No distinction was made between the two types of operators in the analysis. Banks not quoting accurately tended to err 5 to 7 percentage points which is comparable to a \$6 add-on which the banks quoted with frequency.

Table 8. Rate quotation errors expressed in percentage points, by credit grantors, 1963.

Error expressed in percentage points:	Banks		Used car dealers		Consumer finance companies		Credit unions	
	:Per		:Per		:Per		:Per	
	No.	:cent	No.	:cent	No.	:cent	No.	:cent
+ 1% or less	43	41	5	5	26	36	39	64
+ 3% or less	53	51	12	13	30	41	42	69
+ 5% or less	55	52	16	17	32	44	46	76
+ 7% or less	104	99	36	39	39	53	59	97
+ 9% or less	105	100	66	72	52	71	59	97
+ 11% or less			85	92	59	81	61	100
+ 13% or less			90	98	60	82		
Over + 13%			92	100	13	100		
All quoting rate	105	100	92	100	73	100	61	100
Not quoting	7		9		7			
All	112		101		80		61	

The previous analysis of quoted rates by method of quotation indicates the major source of "error." Most of the "errors" can be rationalized in terms of company or trade practices which are not keyed to quoting simple annual rate quotations.

Relative Error

One of the contributing factors in the differences in rate quotation errors is the different levels of rates used by the various credit grantors. For example, a two percentage point error for an institution traditionally charging 10 per cent is far more serious than for one normally charging 36 per cent.

To facilitate direct comparison between institutions, the error is expressed as a per cent of the computed rate to give what is called the relative error. Thus, the per cent accuracy for the relevant dollar add-on is given in the last column of Table 1. It will be noted that the dollar add-on quoted as a per cent is approximately 54 per cent of the computed rate, and the dollar add-on discount is approximately 50 per cent. A quoted rate based upon a simple annual rate should approximate the computed rate and therefore be 100 per cent accurate. The distribution of accuracy of quoted rates by financial institutions is given in Table 9. This clearly shows the bimodal distribution and reflects the tendency of credit grantors to quote either the simple annual rate or the add-on rate. The two extremes are the used car dealers, two-thirds of which had an accuracy of between 50 and 59 per cent, thus suggesting their prevalent use of an add-on rate, and at the other extreme the credit unions, 69 per cent of which were between 90 and 100 per cent accurate, indicating their tendency to quote the "simple annual rate." The banks and consumer finance companies were divided.

This table strongly suggests that the source of error is not a result of dishonesty or outright attempt to be deceptive, but is a result of trade practices and general unfamiliarity of the trade to think in terms of the simple annual rate. It should be remembered that the problem was undertaken primarily to underscore classroom teaching and to give students familiarity with trade practices. Students were examined and graded by their ability to think in terms of the simple annual rate. To give the

Table 9. Accuracy of quoted rate relative to computed rate, by credit grantors, 1963.

Per cent accuracy	Banks		Used car dealers		Consumer finance companies		Credit unions	
	: Per : : No. :cent#		: Per : : No. :cent		: Per : : No. :cent		: Per : : No. :cent	
	: No. :	:cent#	: No. :	:cent	: No. :	:cent	: No. :	:cent
90-100*	50	45	10	10	30	38	42	69
80-89	2	2	1	1	2	3	1	2
70-79	1	1	1	1				
60-69	1	1	1	1	2	3	3	5
50-59**	49	44	67	66	32	40	15	25
40-49***	2	2	9	9	1	1		
0-39			3	3	6	8		
No rate quoted	6	5	9	9	7	9		
Information in- sufficient to compute	1	1						
A11	112	100	101	100	80	100	61	100

* Quoted the simple annual rate or the legal monthly rate.

** Typical of those quoting an add-on rate.

*** Typical of add-on discount rate frequently quoted by used car dealers.

May not add to 100 because of rounding error.

instructor some indication of success in helping the students to be prepared for the problems of communicating with credit grantors in simple interest terms, the students were asked their opinion as to the accuracy of the quotations and later these opinions were matched against the accuracy of the quotations themselves to see whether the students had been discerning in their appraisal.

Student Response to Credit Quotations

Several weeks after the interviews and the lesson unit on credit was complete, and after the data from the credit problems had been tabulated, the cards were returned to the students. Each was asked about the interview with the dealer. A copy of the question form appears in Appendix M. The specific question was: "In your opinion were the answers you received to your credit questions correct?" The answer expected was "yes," "no," or "I don't know," and each was asked to explain his opinion.

The proportion of students who believed they had received a correct answer varied considerably by type of dealer as is shown in Table 10. Three-fourths of the credit unions were believed to have given the correct quotation. Sixty-nine per cent of the banks, about 49 per cent of the consumer finance companies, and a low 37 per cent of the used car dealers were believed to have given the correct quotations. The favored position given the credit unions and banks was justified in that 69 per cent of the credit unions and 51 per cent of the banks did give accurate information; that is, within ± 3 percentage points. Less than half (41%) of the consumer finance companies, and only 12 per cent of used car dealers gave accurate information. A comparison of the proportion of students who believed the quotations to be accurate and the proportion of dealers whose quotations were accurate showed closest correspondence between these figures for the credit unions and consumer finance companies and showed the greatest difference to be for car dealers.

Table 10. Credit grantor accuracy, student belief, and student discernibleness, 1963.

Credit institutions	: Dealers who		: Students		: Discerning	
	: quoted rates		: believing		: students	
	: within + 3%		: quotations		: whose belief	
	: of computed		: correct		: conformed	
	: rate		: rate		: with fact	
	: Per		: Per		: Per	
: No.	: No.:	cent	: No.:	cent	: No.:	cent
Banks	112*	53 51	77 69	66 59		
Used car dealers	101	12 12	37 37	57 57		
Consumer finance companies	80*	35 41	39 49	39 50		
Credit unions	61	42 69	46 75	41 67		

* Seven did not quote per cent.

Even among banks, one student in five who believed the bank quotation to be correct was in error.

Reasons for Student Opinion. Student opinion was classified by the reasons students had given in answer to the question: "On what do you base your opinion?" There were three major classifications: "Faith," "computed," and "sounded reasonable." Additional classifications were for those who said: "I don't know," or who did not give a reason or had no factual basis for a reason.

If the student had actually checked the computations and proved to himself the accuracy or inaccuracy of the quotation, the answer was classified as "computed." However, if the student merely indicated that the opinion was based on deductive reasoning and that it seemed reasonable, or that it was more or less

than the last dealer quoted, the reason was classed as "sounded reasonable." The most difficult classification was that of "faith." Although the separate classifications were not maintained in the first analysis, "faith" was subcategorized. For those who said: "He looked the rate up in a book and therefore it would be right," "He used a rate table," or "He showed me where it was in the book," the answers were subclassified as faith based on book (Fb). Another classification of faith was for those who said: "I have known the dealer for a long time and he would not lie to me," or "We have always done business with this dealer," or "He is a friend of the family and has always helped us." These were subclassifications of implicit faith and were subcoded as Fi. The third subclassification for "faith" was Fe which included such reasons as "He figured it out for me and explained his figures to me," "The man figured out the true annual rate himself, which was different than the one quoted to the public," or "Mr. _____ and I figured the tables together and he explained them to me, showing me how to take everything into consideration."

Reasons given by the students as to why they believed or did not believe the quotations are shown in Table 11. The most frequent reason given by the students was that they had checked the computations. These students were less believing than students who did not compute. Approximately three-fourths of the responses expressing disbelief in the quotations were from students who had computed. Over one-half of the responses expressing belief were based on faith. About one-third of all the opinions were based

Table 11. Reasons given by students for believing credit quotations, 1963.

Reasons	All	Believed	Did not believe
		Number	
Faith	108	103	5
Sounded reasonable	48	21	27
Computed	153	67	86
No reason given	10	8	2
All believing or diabelieving	319	199	120
Don't know	35		
All answers	354		

on faith, and almost all of these trusting students believed the quotations to be correct. Of the students who gave as their reason: "The quotation sounded reasonable," about half believed the rate quotations to be correct and the other half did not.

Student Discernibleness by Credit Grantors

A student was considered discerning if he believed an answer which was correct or diabelieved one which was not correct, and non-discerning if he did not believe a correct answer or did believe an inaccurate answer. Student discernibleness was influenced by the initiative and dependability of the student to check the answer by recomputing it, by trust of the student in the financial institution or credit grantor, and by the accuracy of the credit grantors' quotations.

The relationship of belief, accuracy, and discernibleness is shown in Table 10. Students tended to be discerning when they believed credit unions' quotations, as the majority of these quotations were correct. Relationship of these three factors is similar regarding banks. However, in both cases, discernibleness was lower than belief, indicating that some students who were quoted an incorrect rate did not detect the error. Contrary to the preceding relationships were the responses to the used car dealers' rate quotations. Almost two-thirds of the students did not believe the quotations, and 88 per cent of the quotations were not correct. Students were least discerning with regard to consumer finance companies' quotations. Approximately half of the students believed the finance companies' quotations; however, two thirds of those who believed did not receive correct quotations.

Further evidence of the relationship of students' discernibleness to their belief or disbelief of the quotations and to credit grantors' accuracy in quoting rates is presented in Table 12. In general, students not believing used car dealers' and consumer finance companies' quotations were discerning. On the other hand, it was largely the students who believed the quotations of banks and credit unions who tended to be discerning.

It may also be noted in Table 12 that of the students classified as discerning, the ratio of those believing to those not believing was 7:1 for credit unions and 2:1 for banks, but reversed for consumer finance companies (1:2.5) and used car dealers (1:5).

Table 12. Discernibleness by belief and credit grantor, 1963.

	Discerning			Non-discerning								
	: No. :cent :	: Per :cent :	: No. :cent :	: No. :cent :	: Per :cent :	: No. :cent :						
Credit grantor	: No. :	: Per :cent :	: No. :cent :	: No. :cent :	: Per :cent :	: No. :cent :	: No. :cent :	: Per :cent :	: No. :cent :	: Per :cent :	: No. :cent :	: Per :cent :

* If rate and monthly payment and/or dollar cost were quoted, a "don't know" answer will be classified as non-discerning in subsequent tables. The following institutions did not give sufficient information to draw a conclusion: 3 banks, 4 used car dealers, 3 consumer finance companies, and 1 credit union.

Reason, Belief, and Discernibleness. Another facet of discernibleness is the student's reason for belief that the credit grantors' rates were correct. This is presented in Table 13. Among the students who based their belief on faith, the ratio of discernibleness to non-discernibleness of students was 1:1. Among those who passed judgment because quotations "sounded reasonable," the ratio was somewhat higher, 3:2. But among those who checked the accuracy by computing the figures, the ratio was about 4:1.

Table 13. Discernibleness of students by belief and reason, 1963.

Belief and reason	All		Discerning : Non-discerning	
	No.	Per cent	Number	
Faith	108	31	51	57
Believed	103		46	57
Did not believe	5		5	
Sounded reasonable	48	14	29	19
Believed	21		11	10
Did not believe	27		18	9
Computed	153	43	120	33
Believed	67		43	24
Did not believe	86		77	9
No reason given	10	3	3	7
Believed	8		1	7
Did not believe	2		2	
Don't know*	22	6		22
Inaufficient information to answer	13	3	13	
All	354	100	216	138

* If information was available, a "don't know" response was considered non-discerning.

Also significant is the division of students as to whether or not their reason agrees with their belief. Most interesting are the students who computed, for the discerning students were largely those who did not believe. That is, there were 77 reports of students who justifiably did not believe the quotations to be accurate. Perhaps most disconcerting were the 24 reports of students who supposedly recomputed the answer received and believed it to be correct when in fact the quotations were in error.

Discernibleness and Reasons by Credit Grantor. The reason for believing or not believing the accuracy of quotations may be expected to vary with the type of credit institution. Tables 14, 15, 16, and 17 summarize the frequency of reasons given as related to the discernibleness of students by banks, used car dealers, consumer finance companies, and credit unions, respectively. Although the numbers are too small to justify making strong conclusions, the data permit tentative observation. Credit unions are unique among the four institutions in that a smaller proportion of students computed and a higher proportion based their belief on faith, yet the discriminative ratio for credit unions is the most favorable. It is literally true that they may have "lucked out" for the chi-square value in a two by two analysis (computation vs. discernibleness) is a statistically non-significant value of .607 (1 df; $p = .95$). Significant χ^2 values computed for the other dealers are: Banks $\chi^2 = 6.270$, used car dealers $\chi^2 = 17.069$, and consumer finance companies $\chi^2 = 14.785$.

Table 14. Reasons and discernibleness of banks, 1963.

Reasons	: All		: Discerning:discerning:		: Information
	: Per		: Non-		: insufficient
	:No.	:cent	:for decision		
Reasons	No.		Number		
Faith	36	32	19	17	
No.					
Fi - 9					
Fb - 13					
Fe - 14					
Computed	51	46	38	13	
Sounded reasonable	15	13	8	7	
No reason given and don't know	10	9	1	6	3
All	112	100	66	43	3

Table 15. Reasons and discernibleness of used car dealers, 1963.

Reasons	: All		: Discerning:discerning:		: Information
	: Per		: Non-		: insufficient
	:No.	:cent	:for decision		
Reasons	No.		Number		
Faith	25	25	8	17	
No.					
Fi - 6					
Fb - 14					
Fe - 5					
Computed	49	49	40	9	
Sounded reasonable	11	11	8	3	
No reason given and don't know	16	15	2	10	4
All	101	100	58	39	4

Table 16. Reasons and discernibleness of consumer finance companies, 1963.

		:	:	:	:	:Information
		:	:	:	:	:insufficient
		:	:	:	:	:for decision
Reasons		:No.	:Per	:	:	:
		:	:cent	:	:	:
		:	:	:	:	:
Faith		22	28	5	17	
No.						
Fi - 1						
Fb - 11						
Fe - 10						
Computed		35	44	27	8	
Sounded						
reasonable		12	15	7	5	
No reason given						
and don't know		11	13		8	3
A11		80	100	39	38	3

Table 17. Reasons and discernibleness of credit unions, 1963.

		:	:	:	:	:
		:	:	:	:	:Information
		:	:	:	:	:insufficient
		:	All	:	Discerning:discerning:	for decision
		:	Per	:	:	:
Reasons		:No.	:cent	:	Number	
Faith		25	41		19	6
	No.					
	Fi - 6					
	Fb - 3					
	Fe - 16					
Computed		18	30		15	3
Sounded						
reasonable		10	16		6	4
No reason given						
and don't know		8	13		1	6
						1
A11		61	100		41	19
						1

Student Opinion Summary. In concluding this section of student opinions and their ability to discern accuracy of quotation from the four credit grantors, a summary table (Table 18) was prepared showing the nine groups of students' responses to the dealers. The number of responses of students varied so that the numbers are included to indicate the base upon which the percentages are figured. With the exception of the student responses to credit unions on D, E, and F, student opinions were fairly uniform. The variation between credit grantors on A and B was previously noted in Table 10. It is the percentages shown in C, however, that are a measure of success in teaching students in this difficult area. The goal of the teacher is to achieve a record of 100 per cent discernibleness yet to be achieved.

RESULTS--1962 AND 1963 COMPARED

The 1963 data were compared and contrasted with the 1962 results reported by Morse and Courter (1962). The resulting differences in dollar costs, rate quotations, student belief, and student discernibleness are presented and discussed.

Dollar Costs and Rate Quotations

All credit grantors reported dollar costs more accurately in 1963 than in 1962, as shown in Table 19. Banks, which were most accurate both years in quoting dollar costs, increased their accuracy rate from 84 to 95 per cent. Credit unions increased their accuracy rate most, raising it from 77 to 92 per cent. Used car dealers improved by six percentage points and consumer finance companies by two percentage points.

Table 18. Summary of student opinion and discernibleness.*

Results of student response		:	:	Used	Consumer	:
		:	:	car	finance	Credit
		:	Banks	dealers	companies	unions
A. Obtained a correct quotation.	No.	112	101	80	61	
	%	51	12	41	69	
B. Believed quotation was correct.	No.	112	101	80	61	
	%	69	37	49	75	
C. Were discerning in judgment of quotation.	No.	112	101	80	61	
	%	59	57	50	67	
D. Based opinion on faith.	No.	112	101	80	61	
	%	32	25	28	41	
E. Were discerning in faith judgments.	No.	36	25	22	25	
	%	53	32	23	76	
F. Checked accuracy of quotations by re-computation.	No.	112	101	80	61	
	%	46	49	44	30	
G. Were discerning in judgments based on computation.	No.	51	49	35	18	
	%	75	82	77	83	
H. Based judgment on reasons other than faith and computation.	No.	112	101	80	61	
	%	22	26	28	29	
I. Were discerning in judgments other than faith and computation.	No.	25	27	23	18	
	%	36	37	30	39	

* Number indicates base upon which percentage is figured.

Table 19. Accuracy of dollar cost quotations by credit institutions, 1962 and 1963.*

Credit institutions	1962		1963		Percentage point change (1963 compared to 1962)
	No. of quotations	% of quotations accurate	No. of quotations	% of quotations accurate	
Banks	104	84	111	95	+ 11
Used car dealers	93	78	101	84	+ 6
Consumer finance companies	68	84	80	86	+ 2
Credit unions	44	77	60	92	+ 15

* Error not in excess of \$1.50.

A different picture emerges in regard to rate quotations, as is shown in Tables 20 and 21. Although the proportion of banks quoting their rates accurately almost doubled--increasing from 26 to 51 per cent accuracy--other credit institutions misquoted the rate more frequently. The accuracy of used car dealers decreased by 4 per cent. Accuracy of consumer finance companies decreased by 11 per cent, and of credit unions by 3 per cent. The pattern was the same for quotations within either ± 3 per cent or less or ± 1 per cent or less tolerance limits.

Student Response

Students were more skeptical of the quotations in 1963 than in 1962, as shown in Table 22. Only 37 per cent of the students in 1963, in contrast to 58 per cent in 1962, believed the used

Table 20. Accuracy of rate quotations by credit institutions, 1962 and 1963.*

Credit institutions	1962		1963		Percentage point change :(1963 compared to 1962)
	No. of	% of	No. of	% of	
	quotations	quotations accurate	quotations	quotations accurate	
Banks	104	26	105	51	+ 25
Used car dealers	88	17	101	13	- 4
Consumer finance companies	63	52	73	41	- 11
Credit unions	43	72	61	69	- 3

* Error not in excess of 3 percentage points.

Table 21. Accuracy of rate quotations by credit institutions, 1962 and 1963.*

Credit institutions	1962		1963		Percentage point change :(1963 compared to 1962)
	No. of	% of	No. of	% of	
	quotations	quotations accurate	quotations	quotations accurate	
Banks	104	14	105	41	+ 27
Used car dealers	88	12	101	5	- 7
Consumer finance companies	63	49	73	36	- 13
Credit unions	43	70	61	64	- 6

* Error not in excess of 1 percentage point.

Table 22. Students believing rate quotations correct, by credit institutions for years 1962 and 1963.*

Credit institutions	: 1962	: 1963	:
	: Per cent of	: Per cent of	: Percentage
	: students	: students	: point change
	: believing	: believing	: (1963 compared
	: quotations	: quotations	: to 1962)
Banks	83	69	- 14
Used car dealers	58	37	- 21
Consumer finance companies	58	49	- 9
Credit unions	88	75	- 13

* Replied "yes" to the question: "Do you believe you received the correct information?"

car dealers' quotations to be correct. This 21 percentage point drop was the largest among all credit grantors. The drop in percentage points was 13 and 14, respectively, for credit unions and banks, and nine for consumer finance companies.

Student Discernibleness. Even though students became more skeptical about quotations in 1963, their "discernibleness" in determining accuracy of a rate quotation did not change proportionately for there were also shifts in the accuracy of the quotations. These data are shown and summarized in Table 23. Students became 21 per cent more discerning of banks' quotations, reflecting the 25-point increase in the accuracy of quotations and the decrease of 14 points in belief in the accuracy of the banks' quotations. The increase of discernibleness of used car dealers is largely the result of the 21-point increase in skepticism as to the accuracy of used car dealer rate quotations.

Table 23. Discerning students, by credit institutions for years 1962 and 1963.*

Credit institutions	: 1962	: 1963	: Percentage
	: Per cent of : discerning : students	: Per cent of : discerning : students	: point change : (1963 compared : to 1962)
Banks	38	59	+ 21
Used car dealers	50	57	+ 7
Consumer finance companies	69	50	- 19
Credit unions	69	67	- 2

* Discerning students are those who declared the rate quotation to be correct and the error was + 3% or less, and those declaring the rate to be incorrect and the error in the quotation was in excess of + 3%.

Despite the drop of only 9 points in the belief of students in the correctness of the consumer finance company quotations, student discrimination decreased by 19 points, most likely because of the 11 per cent decrease in accuracy of quotations. Discernibleness of credit unions, despite the decrease of 13 points in belief of quotations and only 3 per cent decrease in the correctness of the quotations, decreased by only 2 percentage points. Students remained most discerning of the credit unions' quotations.

Reasons for Judgment of Quotations. A direct comparison of 1962 with 1963 reasons is confounded by differences between investigators. Judgment is involved in classifying the reasons given by students, and there is no objective method by which the judgments of the two investigators can be standardized. For example, in 1962 there was no provision made for the 13 per cent

which in 1963 was classified as "don't know," "no information given," or otherwise unclassifiable. Nevertheless, as is shown in Table 24, there was a definite shift in reasons given. The change was from "faith" and "deductive reasoning" to "computation." Perhaps most characteristic of the 1963 student group was their willingness to recompute the figures given them by the credit grantors.

Table 24. Reasons for judgments of credit grantors' quotations by year, 1962 and 1963.

Reasons	:	:	:
	:	:	:
	: 1962	: 1963	: Percentage : point change : (1963 compared : to 1962)
	Per cent		
Faith	55	31	- 24
Deductive reasoning	31	14	- 17
Computed	14	43	+ 29
No reason given)			
Don't know)	*	13	
Insufficient information)			
to answer)			
All	100	100	

* Classifications not used in 1962.

Summary

The three measures of comparison employed for this study, namely the accuracy of rate quotations, the percentage of students believing the quotations, and the discernibleness of students, for the year 1963, are presented in Fig. 1. This is a companion

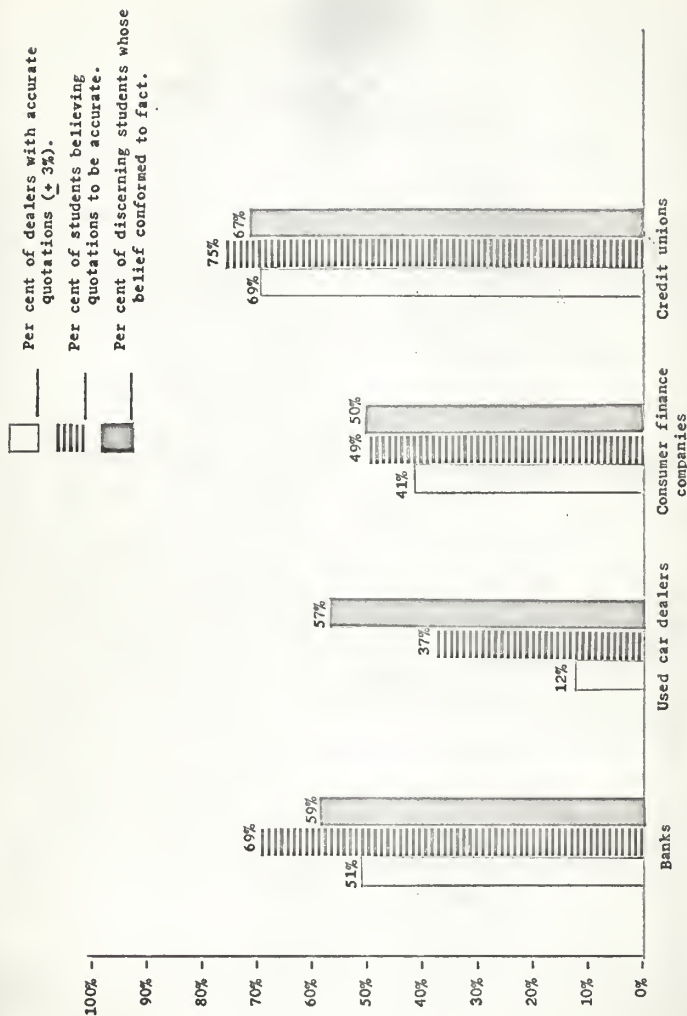


Fig. 1. Comprehensive table of 1963 data.

figure for the one prepared for the 1962 data and presented in Appendix L.

All four types of credit institutions quoted dollar costs more accurately in 1963 than in 1962. Rate quotations, however, did not follow the same pattern. The proportion of banks quoting accurate rates in 1963 almost doubled; however, there was a decrease in the percentage of other credit institutions quoting accurate rates.

Students were more skeptical of creditors in 1963 than they were in 1962 and their waning faith was justified since, banks excepted, the credit institutions misquoted the rates more frequently.

Judgments for "belief" or "disbelief" in the accuracy of quoted rates were, in 1963, less often based on such reasons as "faith," "prejudice," and "sounds reasonable," and more frequently on computation.

FIVE-YEAR COMPARISON

Credit institutions were compared on the basis of their accuracy in reporting dollar costs for the four years 1960-1963, and the accuracy of rate quotations for the five years 1959-1963. Dollar cost data were not obtained in the 1959 study. Comparisons were made by types of credit grantor.

Accuracy of Quotations

Dollar Costs. Dollar costs were quoted more accurately than were rates for all years, as may be seen in Figs. 2 and 3. No

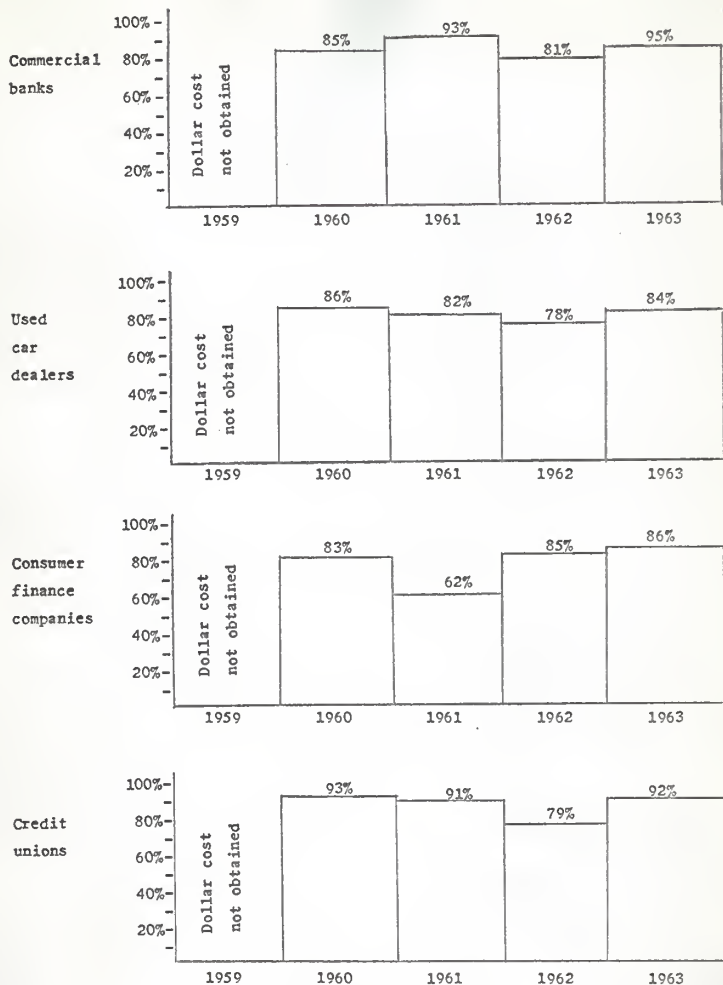
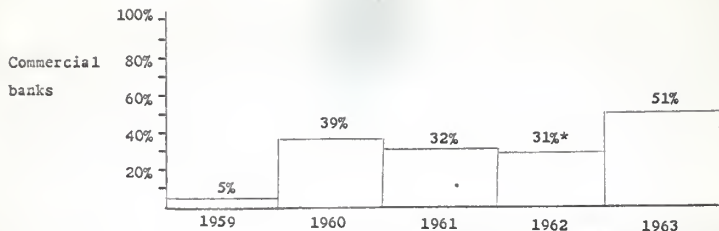


Fig. 2. Institutions quoting dollar costs ±\$1.50 accurately, by year.



* Accuracy of banks' rate quotations differed slightly from findings of Morse and Courter (1962).

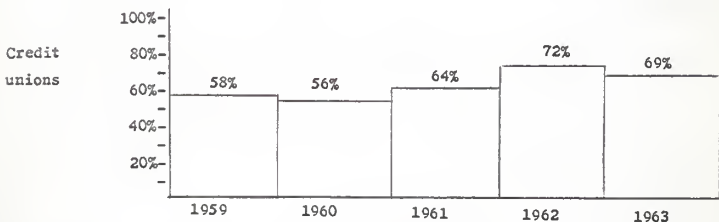
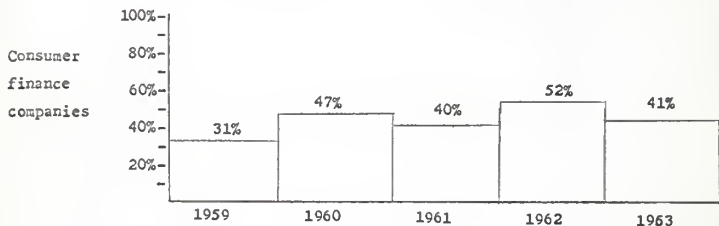
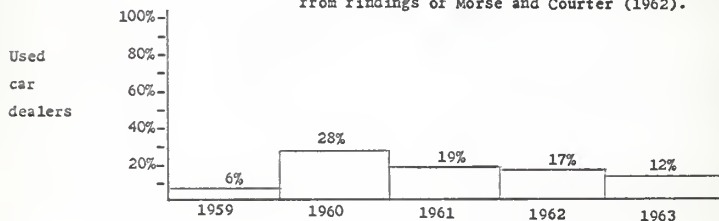


Fig. 3. Institutions quoting rates +3% accurately, by years.

institution consistently ranked most accurate in quoting dollar costs, although banks and credit unions did rank higher than consumer finance companies and used car dealers.

Although banks and used car dealers customarily quote their finance charges by the add-on or the dollar charge per hundred, rather than the rate method generally used by credit unions and consumer finance companies, this was not reflected in the accuracy of dollar cost quotations. In Tables 25, 26, 27, and 28, a percentage distribution of the errors in dollar cost quotations is presented in sufficient detail to reveal the spread of error in quotations. In quoting dollar costs, errors not falling within the tolerance limits of $\pm \$1.50$ tended to be in excess of \$8.00. Such errors reflect major errors in communication between the credit institution and the student. In some cases, fees and insurance had been included even though the problem stated specifically that insurance was not to be included, and in other cases the dollar amount needed to finance the car purchase was altered to accommodate the credit grantor. Although there was some tendency to understate the dollar cost, most of the credit grantors quoted it within $\pm \$1.50$, and more often than not, they stated it precisely.

Rate Quotations. In Fig. 3 is shown the percentage of credit grantors who quoted percentage rates within ± 3 per cent accuracy. In each of these five years a majority of the credit unions quoted rates within this range. Only in 1963 did more than half of the banks quote a rate that was within ± 3 per cent accuracy, and only in 1962 did more than half of the consumer

Table 25. Dollar cost quotation error of banks.

		: 1959	: 1960	: 1961	: 1962	: 1963
Error in dollars:		Per cent of banks*				
Understated	8.01 & over				3	2
	7.51-8.00					
	7.01-7.50					
	6.51-7.00					
	6.01-6.50					
	5.51-6.00					
	5.01-5.50					
	4.51-5.00					
	4.01-4.50					1
	3.51-4.00					
	3.01-3.50		2	1	4	
	2.51-3.00			1	1	
	2.01-2.50					
	1.51-2.00					
	1.01-1.50					
	0.51-1.00			1	2	3
	0.01-0.50		19	13	6	11
Overstated	Precise		52	53	68	71
	0.01-0.50		14	26		6
	0.51-1.00				3	1
	1.01-1.50				2	3
	1.51-2.00					
	2.01-2.50					
	2.51-3.00					
	3.01-3.50				1	
	3.51-4.00		2	1		
	4.01-4.50					
	4.51-5.00			1		
	5.01-5.50					
	5.51-6.00					
	6.01-6.50			1		
	6.51-7.00					
	7.01-7.50					
	7.51-8.00					
	Over 8.01		13	3	11	3
All quoting			100	100	100	100
Banks						
Quoting			64	113	104	111
Not quoting						1
All			64	113	104	112

* May not add to 100 per cent due to rounding error.

Table 26. Dollar cost quotation error of used car dealers.

		: 1959	: 1960	: 1961	: 1962	: 1963
Error in dollars:		Per cent of used car dealers*				
Understated	8.01 & over		3	5	10	4
	7.51-8.00					
	7.01-7.50					
	6.51-7.00					
	6.01-6.50					
	5.51-6.00		3			
	5.01-5.50					
	4.51-5.00			4		
	4.01-4.50					
	3.51-4.00			2	1	5
	3.01-3.50			1	2	
	2.51-3.00			1		
	2.01-2.50		2	1	1	3
	1.51-2.00		2			
	1.01-1.50			2	1	5
	0.51-1.00				2	
	0.01-0.50		5	9	4	10
	Precise		67	56	65	55
Overstated	0.01-0.50		12	11	6	13
	0.51-1.00		2	4		1
	1.01-1.50					
	1.51-2.00				2	
	2.01-2.50				1	
	2.51-3.00					
	3.01-3.50					
	3.51-4.00					
	4.01-4.50					
	4.51-5.00			1		
	5.01-5.50					
	5.51-6.00					
	6.01-6.50					
	6.51-7.00					
	7.01-7.50		2			
	7.51-8.00					
	Over 8.01		2	4	4	4
All quoting			100	100	100	100
Used car dealers						
Quoting			58	106	93	101
Not quoting						
All			58	106	93	101

* May not add to 100 per cent due to rounding error.

Table 27. Dollar cost quotation error of consumer finance companies.

		: 1959	: 1960	: 1961	: 1962	: 1963
Error in dollars:		Per cent of consumer finance companies*				
Understated	8.01 & over		6	15	3	3
	7.51-8.00					
	7.01-7.50				1	
	6.51-7.00					
	6.01-6.50					
	5.51-6.00					
	5.01-5.50					
	4.51-5.00			3		
	4.01-4.50					1
	3.51-4.00		3	3		1
	3.01-3.50				1	1
	2.51-3.00			16	1	
	2.01-2.50				1	
	1.51-2.00					3
	1.01-1.50					
	0.51-1.00				1	
	0.01-0.50		9	8	6	1
Overstated	Precise		62	42	75	70
	0.01-0.50		9	12	3	15
	0.51-1.00		3			
	1.01-1.50					
	1.51-2.00		3			
	2.01-2.50					
	2.51-3.00				1	
	3.01-3.50					
	3.51-4.00					
	4.01-4.50					1
	4.51-5.00					
	5.01-5.50					
	5.51-6.00			1	1	
	6.01-6.50					
	6.51-7.00					
	7.01-7.50				1	
	7.51-8.00				1	
	Over 8.01		6			4
All quoting			100	100	100	100
Consumer finance companies						
Quoting			34	74	68	80
Not quoting						
All			34	74	68	80

* May not add to 100 per cent due to rounding error.

Table 28. Dollar cost quotation error of credit unions.

		: 1959	: 1960	: 1961	: 1962	: 1963
Error in dollars:		Per cent of credit unions*				
Understated	8.01 & over			9	16	3
	7.51-8.00					
	7.01-7.50					
	6.51-7.00					
	6.01-6.50					
	5.51-6.00					
	5.01-5.50					
	4.51-5.00					
	4.01-4.50					
	3.51-4.00					
	3.01-3.50					
	2.51-3.00					
	2.01-2.50					
	1.51-2.00		7			
	1.01-1.50					2
	0.51-1.00				2	
	0.01-0.50		13		18	13
	Precise		60	73	52	65
Overstated	0.01-0.50		20	18	7	10
	0.51-1.00					2
	1.01-1.50					
	1.51-2.00					
	2.01-2.50					2
	2.51-3.00					
	3.01-3.50					
	3.51-4.00					
	4.01-4.50					
	4.51-5.00				2	
	5.01-5.50					
	5.51-6.00					
	6.01-6.50					
	6.51-7.00					
	7.01-7.50					
	7.51-8.00					
	Over 8.01			27	2	3
All quoting			100	100	100	100
Credit unions						
Quoting			15	11	44	60
Not quoting			1			1
All			16	11	44	61

* May not add to 100 per cent due to rounding error.

finance companies quote within that range. The ± 3 per cent range included the legal monthly rate quotations of consumer finance companies. Acceptance of the legal monthly rate quotation as accurate depends upon interpretation and willingness to accept as accurate a monthly quotation since Kansas, under the Kansas Consumer Loan Act, has a step rate law for principal sums over \$300. This would affect the declared accuracy of the legal monthly rate quotations for problems of different principal balances. The credit grantors least accurate in their quotations were the used car dealers. Since the ability to quote an accurate rate in part is a function of the way the problem was stated, the data will be summarized by years.

Variations by Year. In 1959, when the third question asking for the simple interest rate read "Interest rate quotation __% per annum," banks and used car dealers particularly did not respond with a simple annual rate quotation as only 5 and 6 per cent, respectively, correctly quoted the rate. About a third of the consumer finance companies and slightly over half of the credit unions gave the simple annual rate correctly.

The revised 1960 question asked for the cost ". . . equivalent to a nominal interest rate of __% per annum on the money in use." The change in phraseology had no apparent effect on the quotations of credit unions and consumer finance companies, but did significantly affect the rate quotation accuracy of banks and used car dealers who customarily quote by the add-on method rather than the rate method. Used car dealers increased their accuracy rate to almost 30 per cent and banks to almost 40 per cent.

A question was raised in 1960 as to whether or not the words "nominal interest" were commonly understood; therefore, in 1961, 1962, and 1963, the rate question, reclarified, read: "What would be the credit cost expressed as a simple annual rate on the money in use? . . . ___% per year on unpaid balance." Rephrasing of the question did not produce an obvious effect. With exception of the credit unions, all reported rates less accurately in 1961. In 1962, consumer finance companies tripled their rate of accuracy. Accuracy of other institutions remained more or less unchanged.

In 1963, banks almost doubled their accuracy rate, and used car dealers decreased theirs by a third. Consumer finance companies dropped slightly. Credit unions remained the same.

A glance at the percentage point distributions of errors shown in Tables 29, 30, 31, and 32 shows that all institutions have a tendency to understate the rate. Banks' and credit unions' rate quotation errors show definite clustering, indicating a narrower rate range. This is most evident in years 1962 and 1963. The percentage point error distributions of consumer finance companies and used car dealers show a wider variety of rates and charges quoted.

Normalization of Error

The relative accuracy of quotations by credit grantors is presented in Tables 33, 34, 35, and 36. A casual review of these tables will show bimodal distribution of either quotations which are 50 to 59 per cent correct or 90 to 100 per cent correct.

Table 29. Percentage point distribution of rate quotation error of banks.

Error in		1959	1960	1961	1962	1963
percentage points:		Per cent of banks*				
Understated	28.1+	1				
	27.1-28.0					
	26.1-27.0					
	25.1-26.0					
	24.1-25.0					
	23.1-24.0					
	22.1-23.0					
	21.1-22.0					
	20.1-21.0					
	19.1-20.0	1				
	18.1-19.0					
	17.1-18.0					
	16.1-17.0					
	15.1-16.0					
	14.1-15.0	1		1		
	13.1-14.0					
	12.1-13.0					
	11.1-12.0			2		
	10.1-11.0	2	2	2	1	
	9.1-10.0	1	2	1		
	8.1- 9.0	1	2	2		
	7.1- 8.0	2	2	6	6	1
	6.1- 7.0	31	19	12	21	10
	5.1- 6.0	29	28	40	35	37
	4.1- 5.0	20	2	4	4	1
	3.1- 4.0	1	5	2	2	1
Overstated	2.1- 3.0	1	3	3	3	1
	1.1- 2.0			2	3	5
	Precise	3	31	25	21	41
	1.1- 2.0	1	5	2	4	4
	2.1- 3.0	1				
	3.1- 4.0	1			1	
	4.1- 5.0					
	5.1- 6.0	3	2			
	6.1- 7.0					
	7.1- 8.0					
	8.1- 9.0					
	9.1-10.0					
	10.1+					
Per cent quoting		100	100	100	100	100
Banks						
Quoting		86	64	113	104	105
Not quoting						7
All		86	64	113	104	112

* May not add to 100 per cent due to rounding error.

Table 30. Percentage point distribution of rate quotation error of used car dealers.

Error in : 1959 : 1960 : 1961 : 1962 : 1963		Per cent of used car dealers*				
percentage points:						
Understated	28.1+	2		1	1	
	27.1-28.0	2		1		
	26.1-27.0					
	25.1-26.0					
	24.1-25.0					
	23.1-24.0					
	22.1-23.0	5				
	21.1-22.0			1	1	
	20.1-21.0				1	
	19.1-20.0	2		1		
	18.1-19.0	2	2		1	
	17.1-18.0	5			1	
	16.1-17.0	2	2		2	
	15.1-16.0		2	3	3	1
	14.1-15.0	2	2	2	1	
	13.1-14.0	2		7	3	1
	12.1-13.0		9	9		1
	11.1-12.0	12	12	14	10	4
	10.1-11.0	9	4	13	11	13
	9.1-10.0	2	4	2	11	8
	8.1- 9.0	5	14	8	15	22
	7.1- 8.0	5	4	3	5	10
	6.1- 7.0	19	12	7	6	14
	5.1- 6.0	9	2	9	5	8
	4.1- 5.0	5	4		5	4
	3.1- 4.0	2		1		
Overstated	2.1- 3.0				1	1
	1.1- 2.0	3		1	2	2
	Precise	3	23	14	13	5
	1.1- 2.0		5	4		4
	2.1- 3.0				1	
	3.1- 4.0				1	
	4.1- 5.0					
	5.1- 6.0				2	
	6.1- 7.0					
	7.1- 8.0					
	8.1- 9.0					1
	9.1-10.0	2				
	10.1+	2				
	Per cent quoting	100	100	100	100	100
	Used car dealers					
	Quoting	58	56	104	88	92
	Not quoting	7	2	2	5	9
	All	65	58	106	93	101

* May not add to 100 per cent due to rounding error.

Table 31. Percentage point distribution of rate quotation error of consumer finance companies.

Error in : 1959 : 1960 : 1961 : 1962 : 1963		percentage points: Per cent of consumer finance companies*				
Understated	28.1+	11		1	2	3
	27.1-28.0	4			2	1
	26.1-27.0				2	
	25.1-26.0	4			2	
	24.1-25.0					3
	23.1-24.0				2	
	22.1-23.0					
	21.1-22.0					
	20.1-21.0			3		
	19.1-20.0					
	18.1-19.0		6	3		
	17.1-18.0	4	3	3	6	3
	16.1-17.0			10	2	4
	15.1-16.0		3		2	
	14.1-15.0		15			
	13.1-14.0					4
	12.1-13.0				2	
	11.1-12.0	4		4	2	1
	10.1-11.0	12	6	14	10	8
	9.1-10.0	4		1		1
	8.1- 9.0		6	3	10	11
	7.1- 8.0		3			7
	6.1- 7.0	7	6	7		8
	5.1- 6.0	11	3	4	6	1
	4.1- 5.0			3		1
	3.1- 4.0		3			1
Overstated	2.1- 3.0	4				
	1.1- 2.0	19	3	1	38	1
	Precise	8	44	34	13	36
	1.1- 2.0			4	1	4
	2.1- 3.0			1		
	3.1- 4.0					
	4.1- 5.0					
	5.1- 6.0					
	6.1- 7.0	4				
	7.1- 8.0					
	8.1- 9.0					
	9.1-10.0	4				
	10.1+			4		
	Per cent quoting	100	100	100	100	100
	Consumer finance companies					
	Quoting	26	34	72	63	73
	Not quoting	1		2	5	7
	All	27	34	74	68	80

* May not add to 100 per cent due to rounding error.

Table 32. Percentage point distribution of rate quotation error of credit unions.

Error in : 1959 : 1960 : 1961 : 1962 : 1963		Per cent of credit unions*				
percentage points:						
Understated	28.1+			9		
	27.1-28.0					
	26.1-27.0					
	25.1-26.0					
	24.1-25.0					
	23.1-24.0					
	22.1-23.0					
	21.1-22.0					
	20.1-21.0					
	19.1-20.0					
	18.1-19.0					
	17.1-18.0					
	16.1-17.0					
	15.1-16.0					
	14.1-15.0					
	13.1-14.0					
	12.1-13.0					
	11.1-12.0	5		9		
	10.1-11.0	5	13		5	3
	9.1-10.0		6			
	8.1- 9.0	5				
	7.1- 8.0					
	6.1- 7.0		6	9		5
	5.1- 6.0	28	13	9	14	16
	4.1- 5.0		6		5	
	3.1- 4.0				5	7
Overstated	2.1- 3.0					
	1.1- 2.0			9	2	
	Precise	48	56	55	70	64
	1.1- 2.0	5				5
	2.1- 3.0	5				
	3.1- 4.0					
	4.1- 5.0					
	5.1- 6.0					
	6.1- 7.0					
	7.1- 8.0					
	8.1- 9.0					
	9.1-10.0					
	10.1+					
Per cent quoting		100	100	100	100	100
Credit unions						
Quoting		21	16	11	43	61
Not quoting		1			1	
All		22	16	11	44	61

* May not add to 100 per cent due to rounding error.

Table 33. Relative accuracy of rate quotations of commercial banks.*

Per cent of computed: rate	1959		1960		1961		1962		1963	
	: Per	: No.:	: Per	: No.:	: Per	: No.:	: Per	: No.:	: Per	: No.:
	cent	cent	cent	cent	cent	cent	cent	cent	cent	cent
0 - 39	7	8	1	2	3	3	2	2		
40 - 49	5	6	2	3	3	3	2	2	2	2
50 - 59	68	79	32	50	70	62	66	63	49	46
60 - 69	1	1	4	6					1	1
70 - 79	1	1	1	2	4	4	3	3	1	1
80 - 89			2	3	2	2	3	3	2	2
90 -100	4	5	22	34	31	27	28	27	50	48
All quoting	86	100	64	100	113	100	104	100	105	100
Not quoting									7	
All	86		64		113		104		112	

* Percentages may not add to 100 due to rounding error.

Table 34. Relative accuracy of rate quotations of used car dealers.*

Per cent of computed: rate	1959		1960		1961		1962		1963	
	: Per	: No.:	: Per	: No.:	: Per	: No.:	: Per	: No.:	: Per	: No.:
	cent	cent	cent	cent	cent	cent	cent	cent	cent	cent
0 - 39	9	16	2	4	6	6	7	8	3	3
40 - 49	7	12	4	7	12	11	7	8	9	10
50 - 59	31	53	31	55	64	62	53	60	67	73
60 - 69	1	2					3	3	1	1
70 - 79	2	3	3	5	1	1	2	2	1	1
80 - 89	6	10			1	1	2	2	1	1
90 -100	2	3	16	29	20	19	14	16	10	11
All quoting	58	100	56	100	104	100	88	100	92	100
Not quoting	7		2		2		5		9	
All	65		58		106		93		101	

* Percentages may not add to 100 due to rounding error.

Table 35. Relative accuracy of rate quotations of consumer finance companies.*

Per cent of computed: rate	1959		1960		1961		1962		1963	
	No.	cent	No.	cent	No.	cent	No.	cent	No.	cent
0 - 39	6	23			8	11	4	6	6	8
40 - 49	3	12	1	3	2	3	1	2	1	1
50 - 59	6	23	15	44	27	37	21	33	32	44
60 - 69			1	3					2	3
70 - 79	2	7	1	3	1	1	2	3		
80 - 89					1	1			2	3
90 -100**	9	35	16	47	33	46	35	55	30	42
All quoting	26	100	34	100	72	100	63	100	73	100
Not quoting	1				2		5		7	
All	27		34		74		68		80	

* Percentages may not add to 100 due to rounding error.

** Includes those quoting a monthly rate.

Table 36. Relative accuracy of rate quotations of credit unions.*

Per cent of computed: rate	1959		1960		1961		1962		1963	
	No.	cent	No.	cent	No.	cent	No.	cent	No.	cent
0 - 39										
40 - 49	1	5								
50 - 59	8	38	7	44	2	18	10	23	15	25
60 - 69	1	5					1	2	3	5
70 - 79							1	2		
80 - 89	1	5					1	2	1	1
90 -100	10	47	9	56	9	82	30	70	42	69
All quoting	21	100	16	100	11	100	43	100	61	100
Not quoting	1						1			
All	22		16		11		44		61	

* Percentages may not add to 100 due to rounding error.

The best interpretation that can be given of this is to review Table 1 shown in the procedure. Note that the dollar add-on rate quoted as a simple annual rate will tend to be approximately 54 per cent--50 per cent if add-on discount--of the true rate. The middle range of errors of 50 to 59 per cent reflects the tendency of various credit grantors to quote the dollar add-on rate as the simple annual rate. The 90 to 100 per cent error range shows a determined effort to quote a simple annual rate with a reasonable degree of accuracy. Other quotations lying outside of these two poles may be attributed to errors of communication, misunderstanding of the problem, or random events, but not a consistent determined policy of the various credit grantors.

SUMMARY AND CONCLUSIONS

As pointed out in the Morse and Courter study, it is not surprising that there are errors in quoting credit rates, for credit grantors may quote rates many different ways. Banks and used car dealers customarily quote by the add-on method; whereas, credit unions and finance companies generally quote a rate, usually a rate per month. As a rule, Federal credit unions compute the charge on the unpaid balance each month; other credit grantors generally use precomputed or amortized payments per month, regardless of whether the credit charge is stated as a dollar cost per hundred (add-on or add-on discount) or as a rate. Dollar cost quotations did not vary significantly by years. There was not a great variation in accuracy of the dollar cost

quotations by credit grantors. Although dollar costs were quoted more accurately than were the rates, the quotations by no means approached 100 per cent accuracy. It was not the purpose of this study to determine whether credit grantors were unwilling or unable to quote costs precisely.

Accuracy of rate quotations did vary considerably by dealer; but, like dollar costs, did not vary significantly by years. An exception was banks in 1963. The proportion of banks quoting accurate rates almost doubled between 1962 and 1963. The percentage of other credit institutions quoting accurate rates decreased. Some dealers quoted rates taken from charts which included credit life insurance even though the problem specifically stated that the insurance was not needed or wanted.

Those not customarily quoting by a rate method usually quoted the dollar cost per hundred (add-on method) as a rate. This would be the rate for the full balance for a year, but does not take into consideration the declining balance of the amount owed. An add-on quotation computes to be approximately half the true rate. By the constant ratio formula, an add-on quoted as a rate is about 54 per cent of the true simple annual rate. Insurance and service fees were usually not included in the cost of credit on which the rate was quoted but were included in the monthly payment quotation.

Student opinion--analyzed in 1962 and 1963 only--that the correct answer was received, varied by dealer. Most faith was put in banks and credit unions. Least faith was held in consumer finance companies and in used car dealers. Credit unions and

bankers did quote credit costs more accurately than did used car dealers and consumer finance company operators. The chief reasons given by students for "believing" or "disbelieving" were classified as follows: (1) "Faith," meaning that the credit grantor or institution was trusted, the student was convinced because figures were read from a book, or the dealer figured the problem out before the student, (2) "computed," meaning the student recomputed the answers received, and (3) "sounded reasonable." In 1963, students who would not commit themselves to a definite answer were classified as "don't know" or "no reason given."

In 1963, more students computed than discriminated by other means, with the exception of judgments of credit unions which were mostly faith. Those computing were by far the most discerning in their opinions. Those discriminating on the basis of faith were slightly less than half discerning although again with the exception of credit unions. Students placed most faith in credit unions, and fewest students computed their quotations. Their discernibleness was high. Those discriminating because the answer sounded reasonable were slightly over half discerning.

Students who believed credit unions and banks had a fair chance of being discerning. Students who did not believe used car dealers and consumer finance companies also had a fair chance of being discerning.

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APPENDICES

APPENDIX A

For Standardizing and Simplifying Charges for Credit and Loans

A resolution to encourage comparative shopping by consumers for loans and for credit, and to thereby sharpen competition by requiring that the cost of the loan or credit be stated explicitly, and also that this cost be computed as an effective simple rate per annum and so quoted; be it

Resolved, That in all lending situations involving cash loans, in all situations involving revolving credit and similar deferred payment plans, and in those buying-selling situations in which the buyer of goods or services is provided the opportunity or option to secure title to, to gain possession of, or to enjoy the use of the goods and services without making full payment in cash at such time, but arranging payments for the future in sufficient amounts to satisfy the seller completely, then such contract, note, agreement, or other instrument that may be drawn up to bind the buyer or borrower to the future payments shall state clearly in figures equal in size to all other figures used on the instruments two facts, the credit cost and the credit rate, as herein defined:

Credit cost shall be the difference between the cash obtained in the case of a cash loan, or the cash price in the case of a purchase agreement (that is, the amount that would have satisfied the vendor at the time the sale was initiated), and the total amount of the contracted payments (for the same goods or services), such difference to be expressed in dollars and cents.

Credit rate shall be the ratio times 100 of the credit cost to the amount of cash required throughout the life of the contract to satisfy the transaction or the loan. The credit rate shall be expressed as a rate per centum per annum. It shall be a "simple" and "effective" rate, applicable throughout the contract. (That is, the credit cost for a loan or an item financed if paid for in cash at the end of the first month would be one-twelfth the credit rate times the cash price.)

Furthermore, the intent of the resolution is that it apply to all consumer credit transactions. Failure to state credit cost and credit rate shall be understood to mean that none exists, thus relieving the buyer or borrower from any implied or otherwise stated obligation to pay in total more than the amount required to settle the transaction or loan for cash. Furthermore, the effective simple rate per annum shall appear in all advertisements or circulars which suggest, imply, or state that "credit terms" could be arranged.

(Adopted unanimously at the Annual Meeting of the K.H.E.A., March 25, 1960)

APPENDIX B

Assignment - Family Finance

EDIT

Assume that you are buying a \$300 used car in your local community. You have \$100 as a down payment and you need to finance the remaining \$200 over a 12 month period. You will have your own insurance.

What terms could you make for such a loan with a:

Loan Department of a Commercial Bank.

Name _____ Location _____

Payments \$ _____ per month for 12 months. Interest rate quotation _____% per annum.

Other information:*

Credit Union or Small Loan Company, if available.

Name _____ Location _____

Payments \$ _____ per month for 12 months. Interest rate quotation _____% per annum.

Other information:*

Used Car Dealer:

Name _____ Location _____

Payments \$ _____ per month for 12 months. Interest rate quotation _____% per annum.

Other information:*

Other information refers to: Collateral required for the loan; insurance requirements, copy of contract. Descriptive literature will be appreciated.

APPENDIX C

Assume that you are buying a \$600 used car (1955 model) in your local community. You have \$100 as a down payment and you need to finance the remaining \$500 over a 12 month period. You have your own insurance.

. What terms could you make for such a 12 month, \$500 loan with a:

. LOAN DEPARTMENT OF A COMMERCIAL BANK.

Name _____ Location _____

What would be the monthly payments per month for 12 months? - - - - \$ _____

What would be the credit cost in dollars? - - - - - \$ _____

The credit cost is equivalent to a nominal interest rate of _____ % per annum on the money in use.

Other information*

. CREDIT UNION OR SMALL LOAN COMPANY.

Name _____ Location _____

What would be the monthly payments per month for 12 months? - - - - \$ _____

What would be the credit cost in dollars? - - - - - \$ _____

The credit cost is equivalent to a nominal interest rate of _____ % per annum on the money in use.

Other information*

. USED CAR DEALER.

Name _____ Location _____

What would be the monthly payment per month for 12 months? - - - - \$ _____

What would be the credit cost in dollars? - - - - - \$ _____

The credit cost is equivalent to a nominal interest rate of _____ % per annum on the money in use.

Other information*

I. Which of the above credit sources would you use? _____
Why? (Give reasons for your choice on back of sheet.)

* Other information refers to: Collateral required for the loan, insurance requirements, copy of contract, filing fees and other charges. Descriptive literature will be appreciated.

APPENDIX D

Assume that your family is buying a \$600 used car (1956 model) in your local community. You have \$200 as a down payment and need to finance the remaining \$400 over a 12 month period. You have your own insurance. Under what terms could such a 12-month, \$400 loan be arranged with a:

A. LOAN DEPARTMENT OF A COMMERCIAL BANK:

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

B. CREDIT UNION OR SMALL LOAN COMPANY:

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

C. USED CAR DEALER:

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

* Other information refers to: Collateral required for the loan, insurance requirements, copy of contract, filing fees and other charges. Descriptive literature will be appreciated.

APPENDIX E

The Problem:

1. Your family is buying a \$500 used car (1957 model) in your local community.
2. You have \$200 as a down payment, and need to finance the remaining \$300.
3. You want to pay the \$300 in 12 monthly payments.
4. You have your own car insurance and do not need credit life insurance.

Question:

How do the credit venders in your community answer the three basic questions listed below?

4. LOAN DEPARTMENT OF A COMMERCIAL BANK:

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a
simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

3. CREDIT UNION

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a
simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

2. CONSUMER FINANCE COMPANY

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a
simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

1. USED CAR DEALER:

Name _____ Location _____

What would be the monthly payments? \$ _____ per month

What would be the total credit cost -- in dollars? \$ _____ per note

What would be the credit cost -- expressed as a
simple annual rate on the money in use? _____ % per year
on unpaid balance

Other information*

* Other information refers to: Collateral required for the loan, insurance requirements, copy of contract, filing fees and other charges.
Descriptive literature will be appreciated.

APPENDIX F

PROBLEM

- Your family is buying a \$650 used car (1959 model).
- You have \$300 as a down payment, and need to finance the remaining \$350.
- You want to pay the \$350 in 12 monthly payments.
- You have your own car insurance and do not need credit life insurance.

INFORMATION DESIRED

- What would be the monthly payments? \$ _____ per month
- What would be the total credit cost in dollars? \$ _____ per note
- What would be the credit cost expressed as a simple annual rate on the money in use? % per year on unpaid balance

COMMENTS

Name of Firm

Location

Descriptive literature will be appreciated

Name of Student

APPENDIX G

Payments per month for 12 months.	:	Interest rate quotation per annum.	Payments per month for 12 months.	:	Interest rate quotation per annum.
\$19.83	:	6 %	\$17.83	:	7 % add-on
19.00	:	6	17.83	:	14
18.66	:	8	17.83	:	7
18.58	:	11.5	17.83	:	7
18.33	:	7.5	17.73	:	6
18.33	:	7.5	17.73	:	6
18.20	:	8	17.73	:	6
18.00	:	8	17.67	:	6 disc.
18.00	:	8	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	7	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	7	17.67	:	6
18.00	:	8	17.67	:	6
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	6 disc.
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	6 disc.
18.00	:	8	17.66	:	6 disc.
18.00	:	6-8	17.66	:	6
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	6
18.00	:	8	17.66	:	8
18.00	:	8	17.58	:	10
18.00	:	8	17.50	:	6 disc.
18.00	:	8	17.50	:	5
18.00	:	8	17.50	:	5
18.00	:	8	17.50	:	5
18.00	:	8	17.50	:	5
17.93	:	7	17.50	:	5
17.84	:	7	17.22	:	6
17.84	:	7	17.20	:	6
17.83	:	7	17.00	:	7
17.83	:	7	16.70	:	6
17.83	:	7	16.67	:	6
17.83	:	7	16.66	:	6
Median 17.83	:	7	16.66	:	2.5

Note: See note under "Used Car Dealer" on next page for legislation regulating this type of loan.

Payments per month for 12 months.	:	Interest rate quotation per annum.	Payments per month for 12 months.	:	Interest rate quotation per annum.
\$23.92	:	8 %	\$18.33	:	10 %
21.00	:	25	18.33	:	13
21.00	:	20	18.12	:	8
20.50	:	23	18.03	:	% not quoted
20.00	:	19+	18.00	:	8
19.55	:	13	18.00	:	8
19.50	:	8.5	18.00	:	8
19.50	:	8.5	18.00	:	8
19.04	:	17	18.00	:	8
19.04	:	9	18.00	:	8 disc.
18.90	:	13% on old cars; 6% on new	18.00	:	% not quoted
18.90	:	not quoted	18.00	:	8
18.90	:	10.5	18.00	:	8-13 (depends on risk)
18.90	:	24.7	18.00	:	8
18.90	:	do not quote rate	18.00	:	8
18.90	:	do not quote rate; \$26.07 int.	18.00	:	8
18.88	:	7	18.00	:	8
18.88	:	8-13 (depends on risk)	17.93	:	10
18.88	:	13	17.92	:	6
18.85	:	No % stated	17.92	:	6
18.84	:	7-13 (depends on risk)	17.92	:	6
18.84	:	" " " "	17.83	:	7
18.84	:	" " " "	17.83	:	7
18.84	:	" " " "	17.83	:	7
18.83	:	13 (ins. incl.)	17.76	:	12
18.83	:	13 maximum	17.75	:	7
18.67	:	12	17.75	:	7
18.67	:	12	17.67	:	6
18.67	:	9	17.73	:	6% disc. good risk; 10% others
18.67	:	6	17.66	:	6
18.66	:	12	16.67	:	14
18.53	:	No % stated; \$20 int.	16.67	:	10
Median 18.34	:	10		:	

NOTE: Kansas Sales Finance Act of 1958 limits charges for financing new cars to \$7 per \$100 of amount to be financed per year, to \$10 per \$100 per year on 1-2 year old cars, and to \$15 per \$100 per year on cars over 2 years old. This might be summarized:

Maximum Charge per \$200	Monthly payments	Effective rate per annum
\$ 14 for new car	\$ 17.84	12.9 %
20 used car 1-2 yr. old	18.34	18.5
26 car over 2 yrs. old	18.84	24.0

SMALL LOAN COMPANY

Payments per month for 12 months.	:	Interest rate quotation per annum.	Payments per month for 12 months.	:	Interest rate quotation per annum.
\$21.68	:	15 %	\$18.66	:	12 %
21.68	:	15	18.33	:	7.5
21.00	:	20 (3% on unpd. bal.)	18.33	:	13
20.44	:	13	18.33	:	7.5
20.09	:	12 (10% over \$300.)	18.33	:	9
20.09	:	No % stated	18.00	:	8
20.09	:	36	18.00	:	8
20.09	:	3/mo.	17.93	:	15+
20.09	:	10	17.83	:	7
20.09	:	3%/mo. on unpd. bal.	17.67	:	6
20.09	:	36 or 3% on unpd. bal. not exceeding \$300	17.26	:	6.5
20.09	:	36	17.16	:	3
20.00	:	19	16.67	:	6
Median 20.00	:	3%/mo. on unpd. bal.		:	

Note: Legal maximum is 3% per month (36% per annum) on unpaid balances of \$300 or less, and 5/6% per month (10% per annum) of any remainder of said balance up to \$2,100. Maximum monthly payments would be \$20.09 for a \$200 loan at 3% per month.

CREDIT UNION

\$18.67	12 %	\$17.56	8/10 of 1%/mo.
18.47	8	17.00	6
18.33	10 (ins. incl.)	17.00	8/10 of 1%/mo.
17.78	12 (1%/mo.)	17.00	1%/mo. on unpd. bal.
17.77	12.2	17.00	6
	(1%/mo. on unpd. bal.)		
17.77	6.2	16.84	12 annually
17.77	6.2	16.67	1%/mo. on unpd. bal.
17.76	12	16.67	9 (3/4%/mo.)
17.75	6.5	16.67	1%/mo. on unpd. bal.
17.75	6.5	16.67	1%/mo. on unpd. bal.
Median 17.75	6.5	16.00	8

Note: Legal maximum is \$1 per month on unpaid balance (12% per annum). For a \$200 one-year loan, monthly payments would be \$16.66 plus interest, or \$17.77 per month with interest included.

APPENDIX H

LOAN DEPARTMENT OF A COMMERCIAL BANK

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars. : annum.

\$45.29	\$43.48	8 %
45.04	40.42	14.9
45.00	40.00	8
45.00	40.00	8
45.00	40.00	8
45.00	40.00	15.7
45.00	40.00	16.6
45.00	40.00	8
45.00	40.00	14.7
45.00	40.00	16
45.00	40.00	14.7
45.00	40.00	8
45.00	40.00	8 disc.
45.00	40.00	8 disc.
45.00	40.00	8
45.00	40.00	8
45.00	40.00	8
44.99	40.00	8
44.99	50.00	8
44.80	37.60	7.5
44.63	35.50	6 add on
44.59	35.00	7
44.58	34.96	7
44.58	34.96	13.6
44.58	35.00	7
44.45	30.00	11.07
44.33	32.00	8
44.33	32.00	8
44.33	31.96	6.3
44.33	31.96	6.3
44.30	41.80	6
44.25	30.95	11.4

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars. : annum.

\$44.22	\$30.64	6.1%
44.17	30.04	6
44.17	30.00	6
44.17	30.00	6
44.17	30.00	6
44.17	30.00	11
44.17	30.00	8.9
44.17	30.00	6
44.17	30.04	12
44.17	30.04	11.1
44.17	30.00	11.07
44.17	30.04	12
44.17	30.00	11
44.16	30.00	6
44.16	30.00	6
44.16	30.00	6
44.16	30.00	6
44.15	29.80	12-16
44.10	30.00	6
44.00	32.00	17
43.75	25.00	5
43.50	22.00	8.12
43.50	22.00	8.12
43.34	20.08	8
43.00	16.00	5.97
42.00	22.44	6
41.67	30.00	6
41.66	16.00	6
41.66	16.13	6
38.33	40.00	16
38.00	25.80	6

Median _____

Note: See note under "Used Car Dealer" on next page for legislation regulating the sales finance type of loan. Unless specific legislation is provided, the usury ceiling of 10% is applicable.

USED CAR DEALER

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars. : annum.

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars. : annum.

\$50.00	\$100.00	20 %	\$46.67	\$60.00	17.2%
48.97	87.64	32	46.55	58.60	11.72
48.84	67.32	13	46.34	56.08	9
48.76	70.34	13	46.28	50.00	10
47.65	71.80	27	46.02	52.24	19.28
47.62	71.44	14.3	46.02	52.24	19
47.62	71.44	14.3	46.00	50.00	10
47.62	71.44	14.3	45.91	51.00	9
47.62	71.44	14.4	45.83	50.00	10
47.62	71.44	12	45.83	49.96	10
47.57	70.84	19.9	45.83	49.96	10
47.57	65.66	13.9	45.83	50.00	10
47.28	67.36	--	45.49	45.88	8
47.28	67.36	13	45.25	43.00	15.8
47.28	65.23	13.5	45.20	42.50	8.5
47.28	67.36	--	45.00	40.00	8
47.28	67.36	17.5	45.00	40.00	16
47.28	67.36	13.9	45.00	40.00	8
47.28	67.36	6.25	45.00	40.00	16
47.25	67.00	9.5	45.00	40.00	8
47.25	67.00	24.7	45.00	40.00	8
47.14	65.72	26	45.00	40.00	8
47.10	65.23	24.1	45.00	40.00	8
47.08	65.00	13	44.50	34.00	12.55
47.08	64.96	23.98	44.47	33.64	12.4
47.08	64.96	13	44.17	30.00	6
47.02	71.44	14.3	43.90	26.80	9.7
47.00	65.00	24	43.87	26.44	5.2
46.93	63.10	23.2	43.85	50.00	10

Median

Note: The Kansas Sales Finance Act of 1958 limits charges for financing new cars to \$7 per \$100 of the amount to be financed per year; for financing used cars one to two years old, \$10 per \$100 per year; and for financing cars over two years old, the maximum charge is limited to \$13 per \$100 per year.

Since this is a five-year old car and \$500 is the amount to be financed for a year, the legal maximum charge is \$65. The monthly payments would be \$47.08, and the nominal rate of interest 24%. The schedule of maximum charges is as follows:

	Maximum charge		Monthly payments on \$500 loan	Nominal rate per annum
	Per \$100	Per \$500		
New car	\$ 7.00	\$35.00	\$44.58	12.9%
Used car, 1-2 years	10.00	50.00	45.83	18.5
Used car, over 2 years	13.00	65.00	47.08	24.0

SMALL LOAN COMPANY

Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per : annum.	Other information
\$51.71	\$120.52	45 %	Chattel mortgage
51.00	89.78	3	Includes life, h & a insurance
51.00	112.00	22.4	3% per mo. on unpaid balance
51.00	112.00	22.4	3% per mo. on unpaid balance
51.00	108.46	40	
50.00	100.00	37	Includes life, h & a insurance
50.00	88.74	22	
49.80	97.50	36	
49.20	90.00	18	
49.00	88.00	3	5/6% per mo. over \$300
49.00	88.00	17.6	
49.00	87.72	17.5	
49.00	88.00	17.64	
48.97	87.64	3	5/6% per month over \$300
48.97	87.64	15	
48.97	87.64	17.53	
48.97	86.64	17.4	
Median			
48.92	87.64	3	Per mo. on unpaid balance
48.17	87.64	32	
48.00	86.69	3	5/6% per month over \$300
48.00	76.00	27	
47.08	64.96	17.4	
47.08	65.00	13	Dealer loan
45.91	50.92	10	9% plus 1% for credit life
45.82	50.00	10	Collision insurance needed
45.28	43.36	8	
44.80	37.60	7.5	Credit life used
44.54	34.48	12.7	Includes insurance and fees
44.50	34.00	12	
44.17	30.04	12	
44.17	30.04	12	
44.00	30.00	6	
43.65	23.80	8.79	
43.54	22.50	4.5	

Note: The Kansas Consumer Finance Act adopted by the 1955 legislature established a maximum of 3% per month (36% per annum) on that part of the unpaid balances not exceeding \$300, and 5/6% of 1% on any remainder of said balance up to \$2,100.

Under this rate schedule, the monthly payments on a \$500 one-year loan, to be repaid in equal monthly payments, would be \$48.97. The cost of the loan would be \$87.64, and the nominal rate approximately 32%.

CREDIT UNION

Payments per month for 12 months.	Credit : cost in dollars.	Interest rate : quotation per annum.	Other information
\$46.66	\$60.00	12 %	
46.66	60.00	12	
45.88	50.52	9.6	
45.00	40.00	8	
44.50	32.43	12	
44.45	33.05	12	1% per mo. on unpaid balance
44.42	33.04	12	
44.33	31.96	11.8	
Median			
43.87	--	9.6	
43.87	26.44	5.2	8/10% per month
43.69	24.38	9	
43.15	17.80	7	
41.69	32.50	6.5	
41.67	32.50	12	
41.67	32.50	13	1% due on unpaid balance
41.67	32.50	6.5	

Note: Credit unions in the State of Kansas operate under Federal or State charters which limit the charges to an interest rate of 1% per month (12% per annum) on the unpaid balances.

A \$500 one-year loan would require monthly payments of \$41.67 plus interest computed at 1% of the monthly unpaid balances. The cost would be \$32.50.

If the loan is to be repaid in equal monthly payments, \$44.42 would repay the loan and yield 1% per month on the monthly unpaid balances. The cost would be \$33.09.

APPENDIX I

RECOMMENDED LIST OF INVESTMENT BONDS

Yield at per month for 12 mo. S.	Amount invested in dollars	Term of the note or on per annum	Yield at per month for 12 mo. S.	Amount invested in dollars	Interest quoted at annum
37.70	35.40	over 13 %	\$35.64	\$28.04	7 %
37.39*	35.78	8	35.67	28.00	7
37.33	35.00	12	35.57	28.00	7
37.20	44.00	11	35.60	28.00	7 1/2
36.57	35.84	6	35.66	28.00	7
36.39	35.68	3 disc.	35.64	27.92	7
36.23	35.76	3	35.64	27.92	7
36.23	35.76	8	35.48	26.26	11.07
36.23	34.76	3 disc.	35.77	25.53	11.7
36.12	35.00	8	35.44	25.52	6
36.05	32.50	7	35.40	25.52	6
36.00	32.00	5	35.40	25.52	11 1/2
36.00	32.00	8	35.40	25.00	6 1/2
36.00	32.00	3 disc.	35.40	24.44	9.23
36.00	31.00	3	35.35	24.00	5
36.00*	31.00	8	35.30	24.00	10
36.00	30.00	16	35.30	24.00	6
36.00	30.00	3	35.30	24.00	6
36.00	30.00	8	35.30	24.00	6
36.00	30.00	3	35.30	24.00	6 disc.
36.00	30.00	8	35.30	24.00	6
36.00	32.00	14.7 Median	35.30	24.00	11 1/13
36.00	37.00	9.2	35.30	24.00	6
36.00*	30.00	15	35.30	23.96	6
36.00*	30.00	8	35.30*	23.96	6
36.00	30.00	8	35.30	30.00	10.9
36.00	30.00	5	35.30	24.00	8
36.00	30.00	5	35.30	24.00	11
36.00	30.00	16	35.30	23.96	6
36.00	30.00	3	35.30	24.00	6
35.71	30.00	11.3	35.30	24.00	11
35.67	30.04	7	35.30	23.96	6
35.67*	30.04	7	35.30	23.96	6
35.67	28.00	13	35.30	35.71	6 disc.
35.67	28.04	7	35.30	24.00	6

*Includes fee for original insurance

(continued)

LOAN DEPARTMENT OF A COMMERCIAL BANK (continued)

Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.	Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.
\$35.33	\$23.96	6 %	\$35.33	\$23.96	6 % disc.
35.33	23.96	6	35.03*	20.36	5
35.33	24.00	11	35.00*	20.00	10
35.33	24.00	6	35.00	24.00	6
35.33	24.00	6	35.00	20.00	9
35.33	24.00	11	35.00	20.00	10
35.33	24.00	6 disc.	35.00	20.00	5
35.33	24.00	6	35.00	20.00	9.6
35.33	23.96	6 disc.	35.00	16.82	8
35.33	24.00	6	35.00	20.00	5
35.33	24.00	6	35.00	20.00	9.2
35.33	24.00	6	35.00	20.17	9.1
35.33	24.00	6 disc.	35.00	20.00	5
35.33	24.00	6	34.98	19.76	9
35.33	21.00	7	34.78	17.33	8
35.33	24.00	11	34.75	17.36	8
35.33	24.00	6	34.73	16.76	7.692
35.33	23.96	11.7	33.33	16.00	8
35.33	24.00	8	32.00	36.00	8
35.33	23.96	6	31.34	24.00	11.8
35.33	23.96	6	00.00	32.00	8
35.33	24.00	6	(One payment at end of one year - \$432.00)		

*Includes fee for credit insurance

Note: See note under "Used Car Dealer" on page 5 for legislation regulating the sales finance type of loan. Unless specific legislation is provided, the usury ceiling of 10% is applicable.

USED CAR DEALER

Payments per : Credit : Interest rate month for 12 : cost in : quotation per months. : dollars. : annum.	Payments per : Credit : Interest rate month for 12 : cost in : quotation per months. : dollars. : annum.
\$89.09*	\$52.00 24 %
51.90*	54.56 12.9
41.00	92.00 23
40.00	40.00 10
39.54*	74.48 13
39.14*	53.99 14.25
39.07	53.84 13
39.07	68.84 17.2
38.67	64.00 16
38.67	64.00 16
38.49*	61.88 15.47
38.49*	61.88 wouldn't state %
38.33	59.96 12.9
38.09	57.08 26.3
38.09	57.08 14.2
38.09	57.08 26
38.09*	57.08 14.2
38.09	57.08 26.3
38.09	52.51 12
38.09	57.08 13
38.09	58.08 13
38.09	52.50 12.5
38.09	52.51 13
38.09	52.50 12
38.09*	57.08 --
38.05	56.60 13.5
38.05	56.50 13.5
38.05	56.60 24
38.05	56.60 10.5
38.00	57.00 26
38.00	56.00 14
37.82*	53.84 9.45
37.82	53.84 13
37.82*	53.84 13
37.82*	53.84 13.9
\$37.82*	\$53.84 14 %
37.82*	52.14 13
37.82	53.84 13
37.82	53.84 13.6
37.82	52.14 13
37.82	53.84 13
37.82	53.84 13.5
37.82*	53.84 13.9
37.82*	53.84 11
37.82*	53.84 12.9
37.82	53.84 9
37.80	53.60 13.4
37.67	52.04 13
37.67	52.14 13
37.66	51.92 24
37.66	52.00 24
37.66	51.92 24
37.66	51.92 13.9
Median	37.66 52.00 13
37.57*	50.84 9-11
37.57*	50.84 11
37.50	50.00 12.5
37.40	46.55 11.64
37.33	48.00 12
37.29	47.48 11
37.16	45.92 21.23
37.07*	49.41 11
37.03*	44.36 10
37.00*	40.00 11
37.00*	44.00 11
36.84	44.84 10
36.81*	42.00 19 5/13
36.67	41.72 19.25
	40.00 10

*Includes fee for credit insurance

(continued)

USED CAR DEALER (continued)

Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.	Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.
\$36.67	\$40.04	10 %	\$36.00	\$32.00	8 %
36.67	40.00	10	35.85	30.00	7.5
36.66	40.00	10	35.83	30.00	7.5
36.65	40.00	10	35.77	26.00	14
36.56	36.15	6 disc.	35.67	24.00	6
36.35	36.00	12.7	35.46	25.52	11.8
36.35*	36.00	16.5	35.46	25.52	6
36.35	36.00	8	35.33	23.96	5.5
36.33	36.00	8	35.33	24.00	6
36.14*	33.68	8.42	35.33	23.96	6
36.05	32.60	15	35.33	24.00	6
36.00	32.00	16	35.33	24.00	6
36.00	32.00	16	35.33	24.00	6
36.00	33.00	8	35.33	23.96	6 disc.
36.00	32.00	8	33.52	57.08	13
36.00	32.00	16	33.34	32.00	14.8
36.00	32.00	8	26.94*	84.92	12
36.00	32.00	8	24.78*	105.38	13
36.00	32.00	8			

*Includes fee for credit insurance

Note: The Kansas Sales Finance Act of 1958 limits charges for financing new cars to \$7 per \$100 of the amount to be financed per year; for financing used cars one to two years old, \$10 per \$100 per year; and for financing cars over two years old, the maximum charge is limited to \$13 per \$100 per year.

Since this is a five-year old car and \$400 is the amount to be financed for a year, the legal maximum charge is \$52. The monthly payments would be \$37.69, and the nominal rate of interest 24%. The schedule of maximum charges is as follows:

	Maximum charge		Monthly payments on \$400 loan	Nominal rate per annum
	Per \$100	Per \$400		
New car	\$ 7.00	\$20.00	\$35.67	12.9%
Used car, 1-2 years	10.00	40.00	36.67	18.5
Used car, over 2 years	13.00	52.00	37.69	24.0

SMALL LOAN COMPANY

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars. : annum.

\$45.33	\$44.00	36 %
44.00	99.00	36
44.00	28.00	3 #
42.00*	104.00	none quoted
42.00	79.70	3 #

41.33	96.00	24
41.33	96.00	24
41.00	92.00	3 #
41.00	78.40	3 #
40.50	77.13	17-18

40.18*	41.08	3 #
40.06	62.60	24
40.00	77.13	3 #
40.00*	77.13	6.22
40.00	80.00	20

40.00	77.13	17
40.00	80.00	20
40.00*	77.13	19
40.00*	77.13	3 #
40.00	80.00	3 #

40.00	77.13	3 #
40.00	77.00	3 #
40.00*	77.13	3 #
40.00	77.00	17
40.00	80.00	37

40.00	77.13	17-18
40.00	75.00	3 #
40.00*	77.13	3 #
40.00	80.00	20
40.00	80.00	20

40.00	77.13	3 #
39.76	77.12	35.6
39.73	76.76	3
39.73	76.76	19
39.73	76.76	3 #

39.73	76.76	3 #
39.73	76.76	Would not quote

Payments per : Credit : Interest rate
month for 12 : cost in : quotation per
months. : dollars : annum.

\$39.73	\$76.76	3 % #
39.73	76.76	3 #
39.73	76.76	19.1
39.73	76.76	3 #
39.34	36.00	18

38.33*	60.00	30
38.33	59.96	2.218/mo on unpaid balance
38.09	52.50	13
38.00*	41.41	19
38.00*	40.00	10

38.00	52.00	13
38.00	52.00	13
37.70	52.40	13
37.66	51.92	13
37.66	51.92	13

37.66	51.92	13
37.66	52.00	13
37.66	52.00	\$13/\$100/year (would be 13% state percent)
37.65	52.00	13
37.65	52.00	13

37.33*	48.00	12
37.29	47.48	22
35.42	25.00	6.25
35.42	25.00	6.25
35.34	24.00	6

35.17	22.00	5.5
36.67	40.00	10
36.66	39.92	18.6 (10% disc.)
36.33	36.00	6
36.07	32.80	14 10/13

36.00	32.00	8
36.00	32.00	14.7
36.00	32.00	8
36.00	32.00	8
36.00	32.00	8

36.00	38.00	17.5
36.00	32.00	15.25

*Includes fee for credit insurance

3% on unpaid balance up to \$300 and 5/6 of 1% over \$300.

Note: The Kansas Consumer Finance Act adopted by the 1955 legislature established a maximum of 3% per month (36% per annum) on that part of the unpaid balances not exceeding \$300, and 5/6 of 1% on any remainder of said balance up to \$2,100.

Under this rate schedule, the monthly payments on a \$400 one-year loan, to be repaid in equal monthly payments, would be \$39.73. The cost of the loan would be \$76.76, and the nominal rate approximately 35%.

CREDIT UNION

Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.		Payments per month for 12 months.	Credit : cost in : dollars.	Interest rate : quotation per annum.
\$42.00	\$80.00	3 % /mo.	Median	\$35.49*	\$25.98	6.5%
35.70	28.40	12		34.00	8.00	3.6
35.54	26.48	12		33.34	26.00	12
35.54*	26.48	1		33.34	25.56	12
35.54	26.48	12.2		33.33	26.00	12
35.54	26.48	6				

*Includes fee for credit insurance

Note: Credit unions in the State of Kansas operate under Federal or State charters which limit the charges to an interest rate of 1% per month (12% per annum) on the unpaid balances.

A \$400 one-year loan would require monthly payments of \$33.33 plus interest computed at 1% of the monthly unpaid balances. The cost would be \$26.00.

If the loan is to be repaid in equal monthly payments, \$35.54 would repay the loan and yield 1% per month on the monthly unpaid balances. The cost would be \$26.48.

Credit life insurance is carried at no extra cost to the borrower on most credit union loans.

APPENDIX J

LOAN DEPARTMENT OF A COMMERCIAL BANK

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Monthly Payments	Cost \$	% per Annum	Monthly Payments	Cost \$	% per Annum
\$34.83	\$13.47	6 disc.	\$26.60	\$19.15	11
28.00	24.00	12.2	26.60	19.15	6
27.25	24.00	8	26.53	15.18	5
27.17	26.00	8	26.50	3.18	6
27.15	25.80	8	26.50	18.00	6
27.12	25.44	8	26.50	18.00	6
27.09	25.08	8	26.50	18.00	6
27.00	25.50	15.7	26.50	18.00	11.8
27.00	24.00	8 disc.	26.50	18.00	6
27.00	25.50	15.7	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	11.5	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	15.9	26.50	18.00	12
27.00	24.00	8	26.50	18.00	11
27.00	25.00	8	26.50	18.00	6
27.00	23.00	15.5	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	23.00	14.7	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	26.50	6
27.00	24.00	12.2	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	18.00	12
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	18.00	6
27.00	24.00	8	26.50	18.00	11
27.00	24.00	16	26.50	18.00	11
27.00	24.00	8	26.50	18.00	11
27.00	24.00	13.4	26.50	18.00	6
27.00	24.00	15.6	26.50	18.00	11.1
27.00	24.00	8	26.50	18.00	6
26.80	21.60	12	26.50	18.00	6
26.78	18.15	6	26.25	15.00	5
26.78	18.15	6	26.25	15.00	7.5
26.78	18.15	6	26.25	15.00	5
26.75	21.00	7	26.25	15.00	9
26.75	24.50	15.1	26.25	15.00	5
26.75	21.00	7	26.15	13.80	8
26.75	21.00	7	26.10	13.20	8
26.75	21.00	7	25.82	9.78	6
26.75	21.00	7	25.33	24.00	8
26.75	21.00	7	25.00	18.44	8
26.75	21.00	7	25.00	12.96	8
26.75	21.00	14	25.00	12.00	8
26.75	21.00	7	25.00	9.77	6
26.68	20.16	6.7	24.00	24.00	8
26.60	19.15	6	24.00	24.00	8
26.60	20.00	6 disc.	23.69	15.75	10
26.60	19.15	6	21.17	26.04	8

Monthly Payments	Cost \$	% per Annum	Monthly Payments	Cost \$	% per Annum
\$36.18	\$45.62	11	\$27.80	\$33.16	11
31.00	27.61	9	27.80	30.00	10
30.15	61.80	3	27.80	33.60	11.2
30.10	10.00	10	27.76	33.07	21.2
30.04	60.48	29.5	27.76	33.12	11
30.00	37.46	13	27.75	33.00	11
30.00	60.00	30.8	27.75	33.00	11
29.95	20.00	6.5	27.61	31.32	10
29.50	54.00	18	27.51	30.10	10
29.50	54.00	18	27.51	30.12	10
28.75	45.00	11.5	27.50	30.00	16.9
28.72	44.64	7	27.50	30.00	10
28.65	43.80	13	27.50	30.00	10
28.57	65.00	18	27.50	30.00	19
28.57	42.84	13	27.50	30.00	18.5
28.57	42.84	13	27.50	30.00	10
28.57	39.41	13	27.50	30.00	10
28.57	42.84	15	27.50	30.00	9
28.57	42.84	12	27.42	29.04	9
28.57	42.84	-	27.36	28.32	9
28.50	42.00	14	27.36	28.32	9
28.37	40.44	8.5	27.36	28.32	9
28.28	39.41	13	27.25	27.00	9
28.28	39.41	6	27.09	39.16	12.8
28.28	39.41	13	27.00	24.00	8
28.27	30.44	11.5	27.00	24.00	14.8
28.26	39.12	25	27.00	24.00	8
28.25	39.00	13	27.00	24.00	8
28.25	39.00	-	27.00	24.00	8
28.25	35.00	13	26.80	21.60	12
28.24	38.88	13	26.50	18.00	11
28.24	38.88	8	26.50	18.00	11
28.24	38.88	-	26.50	18.00	6
28.18	38.16	12	26.50	1.50	6
28.18	38.16	12	26.50	18.00	6
28.18	38.18	12	26.50	1.50	6
28.12	25.00	8	26.40	16.80	10.3
28.11	37.42	-	26.30	18.00	6
28.11	37.42	12	26.25	15.00	5
28.08	36.90	22.8	26.25	15.00	5
28.03	36.36	-	26.25	39.00	13
28.03	33.31	17.5	26.25	15.00	5
28.00	38.00	12.5	26.25	15.00	5
28.00	36.00	12	26.24	14.88	12
27.90	33.16	11	26.00	9.88	6
27.86	33.07	11	25.00	12.00	8
27.80	33.60	11.2			

Monthly Payments	Cost \$	% per Annum	Monthly Payments	Cost \$	% per Annum
\$36.00	\$56.34	26.6	\$30.13	\$61.56	3
34.00	58.50	3	30.13	61.56	3
32.00	84.00	4	30.13	61.56	36
32.00	84.00	3	30.00	59.28	10
31.00	72.00	3	30.00	60.00	20
30.12	61.50	20.5	30.00	68.00	18
30.15	61.56	10	29.00	45.38	-
30.15	61.80	36	28.84	38.58	17.7
30.14	62.18	13	28.74	44.88	15
30.13	61.56	3	28.72	44.64	-
30.13	61.56	36	28.57	39.41	13
30.13	61.56	20.5	28.25	39.00	13
30.13	61.56	37.8	28.25	39.00	13
30.13	61.56	3	28.25	39.00	13
30.13	61.56	3	28.25	39.00	13
30.13	61.56	3	28.24	38.88	13
30.13	61.56	3	27.92	35.00	21.5
30.13	61.56	36	27.50	30.00	10
30.13	61.56	36	27.50	33.00	10
30.13	61.56	-	27.50	30.00	10
30.13	61.56	3	27.50	30.00	10
30.13	61.56	20	27.50	30.00	10
30.13	61.56	-	27.42	29.00	17.8
30.13	61.56	3	27.17	24.00	16
30.13	61.56	36	27.00	24.00	13.4
30.13	61.56	3	27.00	24.00	14.8
30.13	61.51	3	27.00	24.00	14.8
30.13	61.56	3.8	27.00	24.00	14.8
30.13	61.56	3	27.00	24.00	14.8
30.13	61.56	3.8	26.50	18.00	6
30.13	61.56	3	26.50	18.00	6
30.13	61.56	3	26.50	18.00	6
30.13	61.56	38	26.00	18.00	-
30.13	61.56	20	25.00	61.56	3

Monthly Payments	Cost \$	% per Annum	Monthly Payments	Cost \$	% per Annum
\$53.00	\$36.00	12	\$26.63	\$19.00	12
53.00	36.00	12	26.54	18.50	12
28.00	19.50	12	26.50	9.88	5
28.00	19.50	6.5	26.50	18.00	6
28.00	19.50	12	26.32	15.84	9.6
28.00	19.50	7	26.32	15.84	9.6
27.22	26.75	12	26.32	15.84	9.6
26.66	19.92	12	26.31	15.72	9.6
26.66	19.92	1	26.30	15.60	-
26.66	19.92	1	26.26	19.82	1
26.66	19.92	12	26.25	15.00	9.23
26.66	19.82	12	26.14	13.65	4.5
26.66	19.82	12	26.00	12.00	7.4
26.66	19.82	1	25.84	10.08	6.6
26.66	19.82	12	25.13	9.88	6
26.66	19.82	6.6	25.00 + int.	19.50	1
26.66	19.82	6.5	25.00 "	19.50	6.5
26.66	19.92	12	25.00 "	19.50	6.3
26.65	19.80	12	25.00 "	19.50	12
26.63	19.82	12	25.00 "	19.50	12
26.63	19.56	12	25.00 "	19.50	8
26.63	19.50	12	25.00 "	10.61	6.5

APPENDIX K

Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$58.50	\$702.00	---	\$30.92	\$21.00	16.0
39.00	21.00	6.0	30.92	21.04	11.5
32.09	19.20	10.0	30.92	21.00	6.0
32.00	29.50	15.5	30.92	21.04	6.0
31.53	28.39	8.0	30.92	21.00	11.0
31.50	28.00	8.0	30.92	21.04	11.0
31.50	28.00	---	30.92	21.04	6.0
31.50	28.00	15.5	30.92	21.04	11.79
31.50	28.00	8.0	30.92	21.04	11.46
31.50	28.00	8.0	30.92	21.00	11.5
31.50	28.00	8.0	30.92	21.04	11.5
31.50	28.00	13.5	30.92	21.04	11.0
31.50	28.00	8.0	30.92	21.04	6.0
31.50	28.00	14.7	30.92	21.04	6.0
31.50	28.00	16.0	30.92	21.04	6.0
31.50	28.00	13.67	30.92	21.04	6.0
31.50	28.00	8.0	30.92	21.04	---
31.50	28.00	8.0	30.92	21.04	6.0
31.50	28.00	15.9	30.92	21.04	11.5
31.50	28.00	8.0	30.92	21.04	6.0
31.37	26.44	13.7	30.92	21.04	11.0
31.36	26.32	14.0	30.92	21.00	10+
31.25	25.00	6.0	30.92	21.04	6.0
31.21	24.50	14.0	30.92	21.04	11.79
31.21	24.52	13.7	30.92	21.04	11.0
31.21	24.52	7.0	30.92	21.00	6.0
31.21	24.52	7.0	30.92	21.04	6.0
31.20	24.40	13.2	30.92	21.04	6.0
31.20	24.50	7.0	30.92	21.04	11.0
31.20	24.40	14.0	30.92	21.04	10.5
31.07	22.84	8.0	30.92	21.00	11.1
31.03	22.34	10.0	30.92	21.04	6.0
31.00	22.00	11.75	30.92	21.00	8.5
31.00	21.00	6.0	30.92	21.04	11.5
31.00	21.00	6.0	30.92	21.04	6.0
31.00	22.00	---	30.92	21.04	6.0
31.00	23.50	6.0	30.92	21.04	11+
31.00	21.00	11.0	30.91	21.00	6.0
31.00	22.75	6.5	30.91	21.00	11+
31.00	24.50	7.0	30.91	20.92	11.9
31.00	21.00	10.4	30.91	21.00	6.0
30.93	21.00	6.0	30.91	21.00	6.0
30.93	22.33	6.0	30.91	21.00	6.0
30.93	21.00	6.0	30.91	21.00	6.0
30.92	21.04	6.0	30.91	21.00	---
30.92	21.00	6.0	30.91	20.92	11.0
30.92	21.04	11.5	30.90	20.80	---
30.92	21.04	6.0	30.90	21.00	6.0
30.92	21.04	11.5	30.90	20.80	---

Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$30.83	\$21.00	6.0	\$30.46	\$15.52	8.0
30.63	17.56	9.0	30.45	15.40	8.0
30.63	17.56	5.0	30.33	14.00	8.0
30.55	17.49	9.0	30.28	---	7.0
30.50	17.49	9.0	30.13	21.00	11.7
30.50	16.00	9.0	29.17	21.00	6.0
30.50	16.00	8.0	25.08	26.20	11.9

Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$90.15	\$81.80	---	\$32.07	\$34.84	10.0
34.33	47.61	13.0	32.07	34.84	10.0
33.33	45.96	13.0	32.06	34.82	10.0
33.33	45.96	13.0	32.00	34.00	8.0
33.33	49.96	13.0	31.99	33.88	9.0
33.16	45.59	---	31.99	31.64	9.0
33.16	45.59	---	31.92	32.76	9.0
33.09	47.08	13.0	31.92	31.60	11.5
32.97	45.59	12.0	31.80	31.60	9.0
32.96	29.30	8.0	31.80	31.60	18.0
32.95	45.50	13.0	31.80	31.60	9.0
32.95	45.40	25.9	31.75	31.00	9.0
32.95	45.50	25.0	31.75	31.50	---
32.96	45.35	8.0	31.75	31.50	15.5
32.87	44.44	---	31.71	30.52	8.0
32.80	43.60	12.0	31.61	29.32	8.0
32.67	42.00	12.0	31.60	30.00	8.0
32.50	40.00	11.0	31.54	28.48	7.0
32.50	38.54	22.0	31.54	17.68	8.0
32.50	38.90	11.0	31.54	24.69	7.0
32.50	40.00	11.0	31.54	24.69	7.0
32.50	40.00	11.0	31.54	24.69	7.0
32.43	39.16	10.0	31.50	28.00	---
32.43	39.16	10.0	31.50	28.00	8.0
32.38	38.54	11.1	31.50	28.00	8.0
32.37	38.54	10.0	31.50	28.00	8.0
32.37	38.54	10.0	31.50	28.00	8.0
32.37	38.54	10.0	31.50	28.00	8.0
32.37	38.54	10.0	31.50	28.00	8.0
32.29	37.48	10.0	31.50	28.00	8.0
32.28	37.36	10.0	21.50	28.00	8.0
32.23	36.76	11.0	31.50	28.00	8.0
32.21	35.07	10.0	31.50	28.00	8.0
32.21	36.52	10.0	31.50	28.00	8.0
32.10	35.20	---	31.50	28.00	8.0
32.09	35.08	10.0	31.47	27.50	5.5
32.09	35.00	10.0	31.47	27.54	---
32.08	35.00	10.0	31.21	24.52	12.7
32.08	35.00	10.0	31.21	24.52	7.0
32.08	32.92	10.0	31.04	22.42	6.0
32.08	35.00	10.0	30.92	21.04	---
32.08	35.00	10.0	30.91	21.00	6.0
32.08	34.96	10.0	30.91	20.92	11.0
32.08	35.00	10.0	30.80	19.60	6.0
32.08	35.00	10.0	30.77	19.24	5.5
32.08	34.96	10.0	30.65	17.80	5.0
32.07	33.36	9.5	30.64	17.50	5.0

USED CAR DEALER

Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$30.63	\$17.50	10.0	\$29.75	\$29.69	8.5
30.45	15.35	8.0	29.16	---	--- *
30.31	37.42	10.0	28.00	28.00	8.0
30.06	24.23	10.0			

* No charge for financing.

CONSUMER FINANCE COMPANY

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Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$36.00	\$82.00	---	\$32.95	\$45.40	13.0
36.00	71.55	31.5	32.95	45.40	13.0
36.00	71.55	3 5/6	32.95	45.40	23.9
36.00	71.55	8.3	32.95	45.40	13.0
36.00	71.55	31.5	32.95	45.40	13.0
36.00	68.43	3 5/6	32.37	38.44	11.0
36.00	71.55	3 5/6	32.10	35.26	---
36.00	82.00	8+	32.10	35.20	10.0
36.00	71.54	3 5/6	32.10	35.20	---
36.00	71.55	3 5/6	32.10	35.20	17.5
36.00	71.54	19.9	32.08	34.96	10.0
36.00	86.00	8.8	32.08	35.00	10.0
35.05	70.60	20.0	32.08	35.00	10.0
35.04	70.48	---	32.08	34.96	10.0
35.00	70.00	3 5/6	32.08	34.96	18.4
35.00	70.07	3 5/6	32.08	35.00	10.0
35.00	70.00	20.0	32.08	34.96	19.7
35.00	70.07	23.1	32.08	34.96	10.0
35.00	70.00	20.0	32.08	34.96	18.4
35.00	70.07	36.9	32.08	34.96	18.4
35.00	70.00	3 5/6	32.08	35.00	10.0
35.00	70.00	3 5/6	32.08	34.96	18.4
35.00	70.00	12.0	32.01	45.40	13.0
35.00	70.07	3 5/6	32.00	34.00	17.5
35.00	70.07	---	31.70	30.40	10-11
35.00	70.00	3 5/6	31.70	30.40	8.0
35.00	70.07	3 5/6	31.70	30.40	8.0
35.00	70.00	3 5/6	31.70	30.40	8.0
35.00	70.00	20.0	31.70	30.40	8.0
35.00	70.00	3 5/6	31.69	30.28	16.0
35.00	70.00	12.0	31.67	30.04	8.0
35.00	70.00	---	31.50	28.00	8.0
35.00	70.07	3 5/6	31.50	28.00	8.0
35.00	70.00	36.0	31.50	28.00	8.0
34.07	48.83	3 5/6	31.24	24.88	7.0
33.33	45.95	13.0	31.20	24.40	---
33.13	45.56	25.8	30.92	21.04	6.0
33.13	45.56	25.8	30.95	17.68	5.5
32.95	45.40	23.9	29.81	37.72	6.0
32.95	45.40	13.0	26.25	43.75	10.0

Monthly Payments	\$ Cost	% per Annum	Monthly Payments	\$ Cost	% per Annum
\$33.00	\$42.00	12.0	\$30.71	\$18.52	9.6
31.92	23.13	12.0	30.71	18.72	9.6
31.67	42.00	24.0	30.71	18.52	9.6
31.50	28.00	8.0	30.71	18.52	9.6
31.50	28.00	8.0	30.71	18.52	9.6
31.21	23.13	11.86	30.71	18.52	9.6
31.11	23.13	1.0	30.71	18.72	9.6
31.11	23.13	12.0	30.71	18.52	9.6
31.11	23.13	6.6	30.71	18.52	9.6
31.11	23.32	12.0	30.71	18.52	9.6
31.11	23.13	1.0	30.71	18.52	9.6
31.11	23.32	12.0	30.71	18.52	9.6
31.11	23.32	12.0	30.71	18.52	9.6
31.10	---	1.0	30.50	15.99	4.6
31.10	23.20	1.0	30.50	16.00	8.4
31.10	23.20	6.5	30.45	15.40	8.0
31.10	23.17	12.0	30.00	10.00	.06-1
31.10	23.20	1.0	31.07	22.86	12.0
31.10	23.20	12.0	29.17	24.50	7.0
31.10	23.20	12.0	29.17	22.74	12.0
31.09	23.08	12.0	29.17	22.74	6.0
31.09	23.08	1.0	29.17	23.02	6.5
31.08	22.96	12.0	29.17	22.73	1.0
31.06	22.75	12.0	29.17	23.03	1.0
31.06	22.72	6.7	29.17	22.74	6.5
31.06	22.72	6.49	29.16	22.76	1.0
31.05	22.60	6.5	29.16	22.75	6+
31.00	22.60	12.0	29.16	22.72	8.0
30.92	21.00	6.0	29.16	42.00	12.00
30.82	19.82	11.3	29.16	22.72	8.0
30.79	19.50	6.5			

APPENDIX L

Are Credit Terms Quoted Accurately? ^{1/}

Richard L. D. Morse and Theresa Courter ^{2/}

"Right now, every ethical lender will carefully spell out interest charges in dollars and cents, and mathematicians are prepared to prove that for most popular types of consumer loans it is impossible to compute the exact true annual rate in percentage terms."

The Wall Street Journal took that editorial position in its editorial on March 7, 1963. Is the editorial correct? Will dealers report correctly the dollar cost of credit? Is it impossible to compute a true annual percentage rate? That is, does the editorial truly reflect current practices? Or, perhaps, it might be more appropriate to ask: How correctly is the dollar cost of credit reported by dealers? And, how correct are quotations of the simple annual rate?

Survey

To answer those questions and to give students experience in communicating in credit terms, 104 students enrolled in a course in family finance at Kansas State University were given a standardized problem to finance a used car. They took the problem home with them

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^{2/} Dr. Morse is Professor and Head of the Department of Family Economics at Kansas State University, Manhattan, and is chairman of the Consumer Credit and Economic Welfare Committee of the President's Consumer Advisory Council. Miss Courter is a junior in Home Economics Education and class participant in the study reported.

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over Thanksgiving (1962) vacation, and presented it to their local dealers under local conditions. They were to contact a bank, a used car dealer, a consumer finance company, and a credit union, if available.

Information Requested

The problem:

- . "Your family is buying a \$500 used car (1957 model) in your local community.
- . You have \$200 as a down payment, and you need to finance the \$300 in 12 monthly payments.
- . You have your own car insurance and do not need credit life insurance."

The question: How do credit vendors in your community answer these three basic questions:

- . What would be the monthly payments \$_____per month
- . What would be the total credit cost -- in dollars \$_____per note
- . What would be the credit cost -- expressed as a simple annual rate on the money in use? . . . _____% per year on unpaid balance

The Students

The students represented various areas of Kansas, both rural and urban as well as different size communities. They had some instruction in credit and should have been more sophisticated in their judgment than an average consumer group. Students were instructed to report the facts given them, and not to interpret the data. They were not to refute or contest the answers given by local dealers. The assignment was to provide a realistic experience for students by their gathering data under local conditions.

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How accurate were the dollar cost quotations? How accurate were the rate quotations? Accuracy of data reported was determined by office computations and summarized in Phase I. The second phase concerns the replies of students subsequently asked if they felt they were given accurate information by the dealers. In the concluding phase of the study these opinions and impressions were matched with the factual data to see if students detected errors, and if the facts justified their appraisal of dealers.

Phase I

Accuracy of Reported Data

The data reported by students was the dollar monthly payments, total dollar cost and simple annual rate. ^{1/} An example of the manner in which the figures were tabulated and computed is shown in Table 1. The constant ratio formula is but one of eight methods used for computing annual rates. ^{2/} It was selected in preference to the most accurate method, the actuarial which will exactly amortize a debt, because it is easy to use, frequently cited, and accurate enough to

^{1/} Copies of the tabulated original data are available from the Department of Family Economics, Justin Hall, Kansas State University, Manhattan.

^{2/} Botts, Ralph R. and Fred L. Garlock, "Interest Rates Charged on Installment Purchases", The Accounting Review, 30:4:607-616 (Oct. 1955).

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Table 1. Example of how figures were computed.

Median Monthly Pay'ts.		Credit Cost in Dollars			Simple Annual Rate		
Dealer	: Quoted (1)	Quoted (2)	: Computed (3)	: Error (4)	Quoted (5)	: Computed (6)	: Error (7)
	:		: $= 12 \times (1) = (2) - (3)$: (4)		: $= .61538 \times (5) = (6)$: $= (5) - (6)$
	:		: $-\$300$:		: $\times (3)$:
Bank	\$26.60	\$19.15	\$19.20	-\$0.05	6.0%	11.8%	-5.8%
Used Car	27.80	33.60	33.60	---	11.2	20.7	-9.5
Consumer Fin.	30.13	61.56	61.56	---	36.0	37.9	+1.9**
Credit Union	26.63	19.50	19.56	- 0.06	12.0	12.0	---
Credit Union	25.00 + Interest	19.50	19.50	---	12.0	12.0	---

* .61538 is a constant figure, using constant ratio formula:

$$r = \frac{2mI}{B(n+1)} = \frac{2 \times 12 \times I}{300 \times 13} = .61538 I \dots \text{as a percentage}$$

r = annual rate

m = number of pay periods in one year; 12 if monthly periods, and 52 if weekly.

n = number of payments in contract

I = dollar cost of credit

B = beginning balance owed on loan or credit contract

** This value of 1.9 is not an error and was not tabulated as an error. It reflects the difference between an actuarial rate of 36% applied monthly and the rate computed using the constant ratio formula. It is the maximum discrepancy that may be attributed to use of the constant ratio method. The discrepancy is less than .2 percentage point for the bank example.

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help borrowers "...determine whether lower interest rates are charged by one lender or seller than by another". ^{1/}

Accuracy of Dollar Cost Quotation

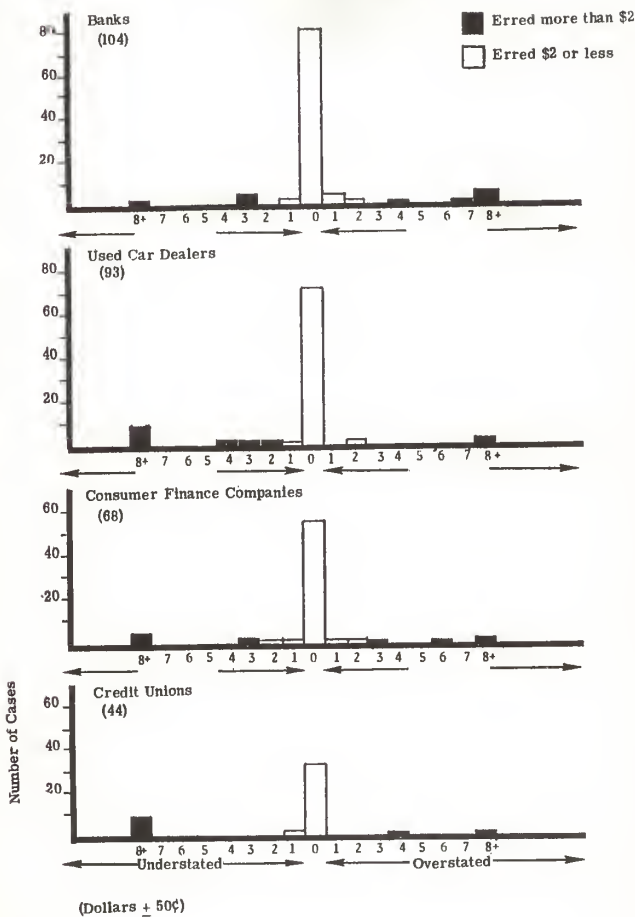
The quoted dollar cost figures were checked for accuracy by multiplying monthly payments by twelve and subtracting the \$300 principal. The computed figures were then compared with those given by the credit vendors. Differences between computed and quoted dollar costs are shown in Chart I.

Dollar costs are usually quoted correctly. Of the 104 banks, 84% quoted dollar cost figures within \$1.50 of the computed figures; of the 93 used car dealers, 78% were within \$1.50 of the computed cost; of the 68 consumer finance companies, 84% were within this limit; and of the 44 credit unions, 77% were within this limit. The arbitrary \$1.50 tolerance was established to allow for small rounding and clerical differences.

Consumer finance companies in this study included both consumer loan companies that make direct cash loans to consumers, and sales finance companies that specialize in buying instalment papers from car dealers, furniture stores, and others.

^{1/} "Farmers' Handbook of Financial Calculations and Physical Measurements" Agricultural Handbook No. 230, Gov't. Printing Office, Washington 25, D. C. 1962. p. 1.

CHART I
ERROR IN DOLLAR COST QUOTATIONS
by INDICATED INSTITUTIONS



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Why the variation? The Kansas Sales Finance Act, enacted in 1958, provides for a dollar add-on type charge. Most states have such legislation. The Kansas maximum for new cars is \$7 per year per \$100 of initial unpaid balance. Therefore, a \$300 new car financed for one year could have a maximum charge of \$21. The maximum varies with age of the car; for used cars, one to two years old, the maximum rate is \$10 per \$100 per year, and is \$13 for older cars. So the legal maximum charge for financing this hypothetical car is \$39. (However, if \$300 were borrowed as a cash loan, then the legal maximum from a credit union at 1% per month is \$19.80, and from a consumer finance company at 3% per month is \$61.66).

Dealers using this dollar add-on method should be able to quote correctly the dollar cost, for they begin their computations with the dollar cost! They add the dollar cost to the amount borrowed, and divide by 12 to compute what the monthly payments will be. If there is no mistake in simple arithmetic, no confusion about extras or credit life insurance, or no failure to communicate correctly, then there should not be an error in the dollar cost quotation. Expression of this as a simple annual rate, however, requires computation or access to rate tables.

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If the dollar add-on were expressed as a percentage of the money in use rather than the initial unpaid balance, the percentage would be about double the dollar rate. Thus, dealers are inclined to use the more economically appearing rate symbol of dollars. Banks and used car dealers who often sell their instalment paper to banks or sales finance companies employ the add-on and discount add-on methods. Some consumer finance companies and credit unions also use the dollar add-on type of quotation to meet competitive practices. For example, a credit union loan charge of \$6.50 compares more favorably with a \$7 add-on quotation than would a rate quotation of 12%.

Although some credit unions and consumer loan companies do quote dollar costs, the laws under which they operate regulate the maximum rate they may charge on the money in use. Their legal base is a simple interest rate. Credit unions are limited to 1% per month, and Kansas consumer finance companies to 3% per month of the first \$300. This rate base provides a natural base for quoting simple annual rates, but not for quoting dollar costs. Yet, they may hesitate to quote the 12% and 36% annual equivalent in the face of competitive advertising of \$7 and \$13 add-on charges. And, often this dollar add-on is not advertised in dollars, but deceptively as a percentage. Only the very sophisticated and persistent consumer can recognize an advertised 5% car loan to be a \$5 add-on or 9.1% simple interest loan, or a \$5 discount loan to

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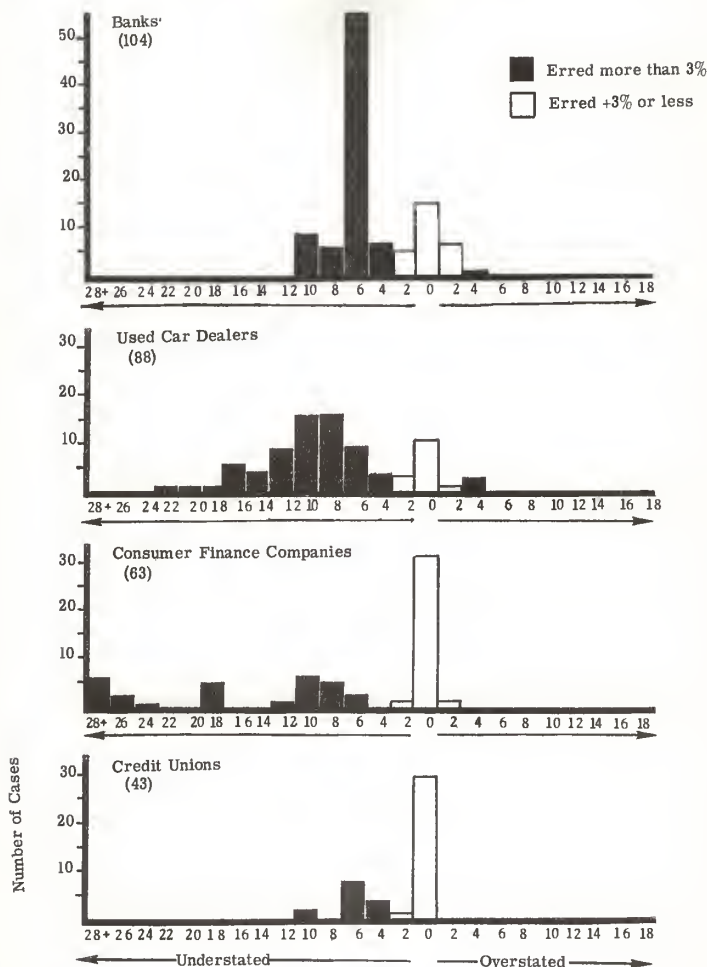
be the equivalent of 9.5% simple interest. Evidence of the resulting confusion in rate quotations is discussed in the next section.

Accuracy of Simple Annual Rate Quotations

Dealers had been asked, "What would be the credit cost - expressed as a simple annual rate on the money in use?" The answer form provided a blank space, followed by "percent per year on the unpaid balance." This rate quotation was compared with a computed rate and the difference is referred to as the error. Rates and errors were computed as shown in Table 1.

Distribution of the errors for percentage rate quotations is presented in Chart II. All 104 students reported rate quotations from banks, but only 88 reported rates of used car dealers, 63 from consumer finance companies and 43 from credit unions. Tendency of dealers was to quote approximately half the computed rate. Most banks (57%) erred 5 to 7 percentage points, approximately equal to their typical \$6 add-on rate, and approximately one-half the computed rate. Similarly the typical used car dealer error was 7 to 11 percentage points, approximately equal to their \$11 add-on rate, and approximately one-half the 21% computed rate for their median monthly payment of \$27.80. When consumer finance companies (48%) and credit unions (28%) quoted inaccurate rates, the quoted rates tended to be below computed rates, tending to compete more favorably with the add-on rate quotations.

CHART II
ERROR IN PER CENT RATE QUOTATIONS
by INDICATED INSTITUTIONS



(Percentage points \pm 1)

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Allowing + or - 3 percentage points in judging accuracy, 26% of the 104 banks and 17% of the 88 used car dealers quoted accurate rates. Credit dealers, accustomed to quoting rates, were more reliable: 52% of the 63 consumer finance companies and 72% of the 43 credit unions were within the tolerance level. This 3 point margin is approximately one fourth of the 11.8% simple annual rate of banks (whose median monthly payment was \$26.60), one seventh the simple annual rate of used car dealers (median was \$27.80), one twelfth the 36% charged by the consumer finance companies, and one fourth the 12% charged by credit unions.

However, if the tolerance is + or - 1 percentage point, 14% of the banks, 12% of the used car dealers, 49% of the consumer finance companies, and 70% of the credit unions quoted the percentage rate accurately. A monthly rate of 3% from consumer loan companies and 1% from credit unions was accepted as correct (see footnote of Table 1).

It is not surprising that there should be errors in quoting credit rates, for credit vendors have many ways of quoting charges: percent per month on unpaid balance, amortized or pre-computed payments that are the same each month, dollar cost of loan based on monthly rate, single payment note per annum simple interest, instalment payment note, dollar add-on discount, and charge account check-credit and revolving credit plans with percent per month on unpaid balance. This complicated list indicates why there may be variation in responses to questions asked.

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Results in Phase I reflect the basic organizational structure of the dealers, and not the needs of consumers. Dealers accustomed to quoting rates were more nearly accurate when quoting simple annual rates than those who by law and custom quote dollar add-on. Consumers in need of funds to buy cars need basic credit information. The consumer's financial position and need is the same whether discussing car financing with a bank, used car dealer, or a credit union.

If the same type of information is to become available to consumers for easy comparison of costs, either consumers must reorganize and standardize credit information supplied by dealers, or dealers need to standardize their system of communicating credit information. Educational efforts to assist consumers to re-state credit information in comparable terms has been meager, but recommended even by those who currently deny its necessity. ^{1/} Senator Douglas to date has been unsuccessful in his legislative efforts to establish a standardized system of communicating credit terms. ^{2/} Such educational and legislative efforts may be needed to effectively facilitate the consumers' access to reliable and comparable information from competitive sources of credit.

^{1/} Hearings before a Subcommittee of the Committee on Banking and Currency, 87th Congress, 1st Session on S.1740, July, 1961, p. 2645; and Hearings, 86th Congress, 2nd Session on S.2755, 1960, p. 617.

^{2/} The senior author's position is to be found in his testimony at both Hearings, supra.

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Phase II

Did students think they were told the truth?

How did the students feel about the information they gathered? Did they feel they had received accurate data? Several weeks after they had completed the interviews the students were asked, "Were the answers you received to your credit questions correct?" They were to answer "yes," "no," or "don't know," and to explain why. This permitted students to tell what they thought and how they felt about the credit dealers interviewed.

In general, students thought the answers given were correct. But this varied greatly by type of dealer. Eighty-three percent of the students felt they had been told the truth by banks, 88% by credit unions, and 58% by used car dealers and consumer finance companies. Thus, students felt credit unions and banks were to be trusted, but they were less sure of used car dealers and consumer finance companies. Obviously, there is a glaring need for better public relations on the part of these dealers.

Were the students justified in their beliefs? Did those who felt they were told the truth get correct answers? Was distrust of the finance companies justified? Why did the students answer as they did? Were their opinions backed up by facts? These questions are the

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subject of Phase III and can best be discussed after reviewing the types of reaction given by students.

Student explanations were classified into three general categories: Those who relied on intuition, prejudices, opinions or on simple faith (55%), those who used deductive reason (31%), and those who calculated to check the accuracy of quotations (14%).

Answers based on faith were either "yes" or "no" with or without justification. Examples were: "Yes - (I believe) he got all of the information out of the rate book which they use for all interest."
"Yes - in our small town we know our bankers. They are people who grew up there and are known as honest people. I know them as personal friends and have worked with them in various activities."
"No - the man did not know too much of what he was doing."
"Yes - the bank I went to was a well known reputable bank in town..."

Those who believed the credit vendor because he based his answers on a rate book were classified as deciding on faith because they relied on whomever read "the book" to use the right set of figures. Deception may not be intentional at the consumer-clerk level. A student who interviewed the dealer for whom she had worked said his figures were correct, "...because I worked for this car dealer one summer figuring payments for customers who purchased cars from him". Yet, the rate she quoted was grossly in error. It was the add-on and not the simple annual rate.

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Answers based on judgments or reason were those which reflected some student study or comparison of credit costs. Examples of such replies are: "Yes, (I believe) - it was reasonable and it was close to what other car dealers had." "No - I thought they were a little high in interest, most other places were not as high as this." "Yes - I got mine from (blank) and their rate of interest is pretty high."

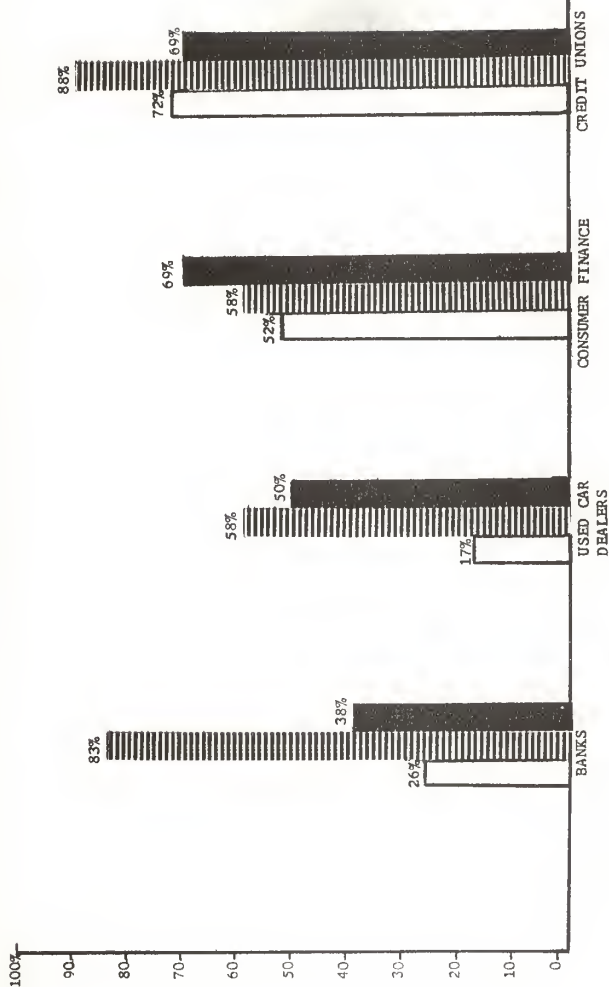
One car dealer told a student that the 10% rate he quoted was deceptive: "The rate itself can be deceiving since it can be either add-on or simple interest. In most cases you'll find that add-on or discount interest is used. ... This interest, expressed as simple annual rate, would be closer to 19%, since you have a diminishing balance if you pay it in equal instalments." His explanation is the key to understanding why many quoted rates are lower than the actual rates.

Phase III

How did students' opinions match the accuracy of reports?

The first phase of this study concerned the accuracy of the dealers' quotations of dollar costs and simple annual rates. It was concluded that accuracy varied by type of dealer. Banks and used car dealers quoted accurate dollar cost figures but inaccurate rates, while consumer finance companies and credit unions quoted fairly good rate information. See the first bar of Chart III.

COMPREHENSIVE TABLE - % RATE



□ Percent-dealers with accurate quotations (+ 3%)

▨ Percent-students believing quotations to be accurate

■ Percent-discerning students-whose belief conformed with facts

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The second phase summarizes students' reactions to the quotations. Did they feel they had been told the truth? In general, as shown by the second bar of Chart III, they felt the information given was correct. Differences between dealers reflect emotional prejudices, such as faith in bankers and credit unions, and suspicion of finance companies and used car dealers. Only one seventh (14%) reportedly based their conclusions on calculations; most had relied upon intuition.

This third phase was to determine whether those dealers whom the students considered reliable did actually quote reliable figures. That is, was their faith in banks and credit unions justified, or their skepticism of finance companies and used car dealers warranted? --Or, another way of looking at this is to ask: "How discriminating were the students? Could they detect an erroneous quotation from a correct one?"

Approximately one third (38%) of the students' replies were classified as "discerning." A discerning student's response was either "Yes, I believe the quotation to be correct", and it was; or "No, I believe it to be inaccurate", and it was in error.

The ability of students to detect errors, as shown by the third bar of Chart III, varied both with their prejudice and with correctness of dealer quotations. For example, only 26% of the bankers' quotations were accurate within 3 percentage points, and only 14% were accurate within 1 percentage point. But because of faith in banks, 83% of the students felt that bankers quotations were correct. The result was

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that only 38% of the students correctly detected the accuracy or inaccuracy of the bankers' quotations. One student, representative of the 57 students who erroneously believed bank quotations to be correct, wrote: "Usually the rates the bankers quote are pretty much the actual rate." She was not unusual, for over half of the students who believed in banks based their belief on simple faith.

On the other hand, a smaller proportion (58%) believed the accuracy of used car dealers. Only 17% of the used car dealers did quote reasonably correct rates, and 50% of the students' replies reflected ability to detect the fallacy of the used car dealer rate quotations. Three fourths of the discerning replies said dealers did not give correct rates, and the rates given were in error.

Consumer finance companies, like used car dealers, were among the least likely (58%) to be considered as giving accurate quotations. Yet 52% of their quotations were accurate. Evidently the students were able to sort out the truth, for 69% of the reports detected right and wrong responses. Approximately one-half of the discerning replies were those who believed rates to be correct, and they were.

Greatest faith (88%) was in the reports of credit unions, which seemed justified as 72% of the credit union rate quotations were correct. Only 69% of the reports detected the accuracy or inaccuracy of credit union quotations.

Some conclusions may be drawn from this study:

1. Consumer finance companies and used car dealers suffer an unfavorable public image relative to that of banks and credit unions. There is great need and opportunity for improved public relations and education.

2. Banks enjoy a high degree of acceptance. Yet, they have the greatest potential for losing respect among discriminating consumers who expect banks to quote rates on credit as reliably as they quote rates on savings.

3. The ideal performance a teacher would expect of students is 100% discernability. A maximum of 69% was achieved together with a low of 38% among the four leading consumer credit institutions. The variation is accounted for by the disarming faith, trust, and respect students have for those whose business it is to deal in credit, and by the ability and willingness of the dealers to give accurate information. Both of these forces were at work in the students' relationships with the banks. They did not challenge the bankers' inaccurate word; the result was that only 38% qualified to be classed as discernable students.

4. To increase the discernability of students, teachers need to arouse students from complacent faith in the accuracy of quoted simple annual rates, and alert them to the necessity of skepticism and of checking credit quotations.

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It was the students' unwarranted faith in banks that produced the low 38% discernibility; their skepticism of used car dealers and consumer finance companies that produced the high 50% and 69% discernibility scores. Least effort need be devoted to increasing discernibility of students dealing with credit unions. The combined faith in quotations and accuracy of figures gives a high degree of justifiable confidence in accuracy of quotations. The discernibility level could be increased if the accuracy of the quotations were checked.

APPENDIX M

PLEASE ANSWER AS BEST YOU CAN FOR EACH INTERVIEW.

In your opinion were the answers you received to your credit questions correct?

Choose one of the following:

YES - I believe they were correct.

NO - I do not believe they were correct.

I DO NOT KNOW

Explain your answer: (On what do you base your opinion?)

PLACE YOUR ANSWER ON THE BACK OF THE CARD. DO NOT WRITE ON THIS SHEET.

CREDIT QUOTATION ACCURACY

by

NORMA JEAN REDEKER

B. S., Kansas State Teachers College
Emporia, Kansas, 1961

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Family Economics

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1964

Credit institutions employ various methods in determining charges for credit. Studies have indicated that the majority of consumers are confused by instalment credit quotations and do not know at what rate they are being charged for their loans.

The purpose of this study was to determine how accurately credit grantors give information to students on the cost of credit, expressed in terms of the dollar cost and the simple interest rate charged. A second purpose of the study concerned student response to the validity of the quoted credit rates.

Data for this study were collected by students enrolled in the Family Finance course at Kansas State University during the fall semesters of 1959, 1960, 1961, 1962, and 1963. The data for this thesis were drawn largely from 1963.

Students presented a problem on financing a used car to: (1) A bank, (2) a used car dealer, (3) a consumer finance company, and (4) a credit union in their local Kansas communities. Although the problem varied from year to year as to the age of the car, its price, and the amount to be financed; repayment was always to be made in 12 monthly instalments. Information requested in all years was: (1) Payment per month expressed in dollars and cents, (2) the total amount of the credit cost expressed in dollars and cents (this information not requested in 1959), and (3) the credit cost expressed as rate per annum.

In 1962 and 1963, students were asked to state whether or not they believed the quotations received were correct and why they did or did not believe. They were classified as "discerning" if they believed a correct answer or did not believe an incorrect

answer, and "non-discerning" if they believed an incorrect answer or did not believe a correct answer.

Accuracy of the quotations received was determined by comparing the quoted figures with computed figures. Computed dollar cost was determined by multiplying the quoted monthly payment by 12 (months) and from that sum was subtracted the amount borrowed to determine computed dollar cost. Quotations not in excess of \$1.50 (tolerance limit established to allow for rounding errors) of the computed dollar costs were considered "accurate." The simple annual rate was computed by using the constant ratio formula with the quoted dollar cost as I. Rate quotations not differing more than 3 percentage points from the computed rate were considered "accurate."

$$\text{Constant ratio formula: } r = \frac{2 \text{ mI}}{B (n+1)}$$

- r = annual rate
- m = number of pay periods in one year; 12 if monthly periods, and 52 if weekly
- n = number of payments in the contract
- I = dollar cost of credit
- B = beginning balance owed on loan or credit contract

The 1963 data, based on a principal of \$350, showed that consumer finance companies quoted the highest median and highest modal monthly payment. These were \$32.95 and \$35.00, respectively. Credit unions quoted lowest median (\$30.79) and modal (\$30.71) monthly payment.

Credit grantors erred less when quoting the dollar costs of credit than when quoting the rate. Banks and credit unions were the most accurate in quoting credit costs in dollars and cents,

as 95 per cent of the banks and 92 per cent of the credit unions quoted them correctly. Less accurate were the consumer finance companies with 86 per cent and used car dealers with 84 per cent quoting the dollar cost accurately. Credit unions were more frequently accurate in quoting rates than were others, as 69 per cent of their quotations were correct. Quotations of 51 per cent of the banks, 41 per cent of the consumer finance companies, and 12 per cent of the used car dealers were correct.

Student response to the validity of credit quotations indicated that they more often believed credit unions and banks than they did consumer finance companies and used car dealers. Their discernibleness was directly affected by the accuracy of quotations and by their ability to compute the problem.

The data for 1963 varied only slightly from the five-year compilation of data. Dollar costs of credit were quoted more accurately than were interest rates for the four years 1960 to 1963. There was no significant difference either by year or credit grantor in the dollar cost quotations. Accuracy of interest rate quotations did vary significantly by credit grantor but not by year with one exception. In 1963, there was a notable increase in the number of banks correctly quoting the simple interest rate. Credit unions were the most accurate in quoting their rates for all years.